

STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE

October 15, 2018 - 9:22 a.m.
 49 Donovan Street
 Concord, New Hampshire

DAY 9
Morning Session ONLY

{Electronically filed with SEC 10-24-18}

IN RE: SEC DOCKET NO. 2015-04
Application of Public
Service of New Hampshire
d/b/a Eversource
Energy for Certificate
of Site and Facility
(Adjudication Hearing)

PRESENT FOR SUBCOMMITTEE/SITE EVALUATION COMMITTEE:

Patricia Weathersby <i>(Presiding Officer)</i>	Public Member
David Shulock	Public Utilities Comm.
Dir. Elizabeth Muzzey	Div. of Hist. Resources
Charles Schmidt, Admin.	Dept. of Transportation
Dir. Christopher Way	Div. of Economic Dev.
Michael Fitzgerald	Dept. of Env. Services
Susan Duprey	Public Member

ALSO PRESENT FOR THE SEC:

Michael J. Iacopino, Esq. Counsel for SEC
(Brennan, Lenehan, Iacopino & Hickey)

Pamela G. Monroe, SEC Administrator

(No Appearances Taken)

COURT REPORTER: Cynthia Foster, LCR No. 14

I N D E X

WITNESS	DAVID RAPHAEL	PAGE NO.
Direct Examination by Mr. Needleman		3
Cross-Examination by Mr. Patch		5
Cross-Examination by Ms. Boepple		46
Cross-Examination by Ms. Ludke		79

P R O C E E D I N G S**(Hearing resumed at 9:22 a.m.)**

DIR. SHULOCK: Good morning, everybody.
We're going to go ahead and get started. It's
Monday, October 15th, 2018, and we're here on
the Seacoast Reliability Project, Docket number
2015-04, and our first witness is David Raphael.

(Whereupon, **David Raphael** was
duly sworn by the Court Reporter.)

DAVID RAPHAEL, SWORN**DIRECT EXAMINATION****BY MR. NEEDLEMAN:**

Q Good morning, Mr. Raphael. Could you please
state your name for the record and where you
work?

A My name is David Raphael, and I work at
LandWorks, a landscape architecture and planning
firm in Middlebury, Vermont.

Q Is your microphone on?

A There we go. Do you want me to repeat that?

Q Yes, please.

A My name is David Raphael. I'm a landscape
architect and planner, and I work at LandWorks
in Middlebury, Vermont.

1 Q And you submitted three pieces of testimony in
2 this docket, and I think you have them in front
3 of you; is that correct?

4 A Yes, it is.

5 Q Let me go through them. You've got Applicant's
6 Exhibit 17, which was your April 12th, 2016,
7 prefiled Testimony.

8 We have Applicant's Exhibit 75 which is
9 your March 29th, 2017, Amended Prefiled
10 Testimony.

11 And Applicant's Exhibit 142 which is your
12 July 27th, 2018, Supplemental Prefiled
13 Testimony. Is that right?

14 A That's correct.

15 Q Do you have any changes or corrections to any of
16 those pieces of testimony?

17 A Not at this time.

18 Q Do you adopt and swear to them today?

19 A Yes, I do.

20 Q Okay. Thank you. He's available for cross.

21 DIR. SHULOCK: Mr. Patch?

22 **CROSS-EXAMINATION**

23 **BY MR. PATCH:**

24 Q Good morning, Mr. Raphael.

1 A Good morning.

2 Q My name is Doug Patch, and I represent the
3 Intervenors, Town of Durham and University of
4 New Hampshire.

5 In your Prefiled Testimony, Exhibit 17, and
6 I'm looking at page 6 of the testimony,
7 electronic page 7, and it's line 27.

8 A Yes. I see that.

9 Q You had indicated that the Great Bay Estuary and
10 its corresponding rivers and wetlands are among
11 the most prominent landscape features in the
12 Project study area. Correct?

13 A Yes. Correct.

14 Q Would you agree that the Great Bay Estuary is a
15 national treasure and a valuable resource to the
16 state? And I can point you to an exhibit that
17 we have introduced that says that.

18 A Yes.

19 Q I want to read you an excerpt from the Durham
20 master plan and ask if you find anything that
21 you disagree with and I'm looking at Exhibit
22 TD/UNH 24 which is excerpts from the Durham
23 master plan, and I'm looking at one on page 8 of
24 that, and it begins by saying, it talks about

1 Great Bay, and it begins by saying that Great
2 Bay is New Hampshire's largest estuarine system,
3 saltwater and fresh water, and is the drainage
4 confluence of three major rivers, the Lamprey,
5 Squamscott and Winnicut. In recent years,
6 recreational opportunities and tourism-related
7 opportunities have become a much larger
8 contributor to the region's local economy. And
9 it goes on from there.

10 I'm wondering if you understand and
11 appreciate the value that the town of Durham
12 puts on historical and natural resources,
13 including Little Bay, as well as the economic
14 value this brings to Durham?

15 A I do appreciate that.

16 Q And can you understand then why residents in
17 Durham would be concerned the impacts the
18 project may have on those resources?

19 A Yes, I do.

20 Q Your original viewshed analysis, Exhibit 51, and
21 in looking at page 100 of that, electronic page
22 106, and I've highlighted it. It's taken me
23 about 7 days of hearings, but I finally figured
24 outlined to highlight portions so you can look

1 at them.

2 In that exhibit, it indicates that this
3 portion of the shoreline is everyday scenic, not
4 highly unique or serving as a focal point or
5 specific scenic resource, and it goes on from
6 there. Do you see that?

7 A Yes, I do.

8 Q And exactly what, it looks to me from the text
9 above that that you're referring to Exhibit 5
10 which I think is actually part of Exhibit 52,
11 page 10 of that. Does that sound right?

12 A I will take your word for it.

13 Q Okay. I mean, it's your viewshed analysis so I
14 want to make sure I get it right.

15 A Oh, yes. I mean, I don't keep track of all the
16 numbers so forgive me.

17 Q Okay.

18 A Certainly aware of the viewshed analysis, yes.

19 Q And so just curious to me that everyday scenic,
20 not highly unique or serving as a focal point or
21 specific scenic resource, and it's a picture
22 from Little Bay of the Durham side, I believe.
23 Does that sound right?

24 A That sounds right, yes.

1 Q Can you explain that?

2 A Yes. I mean, I think at this point I would just
3 make a distinction between the value and
4 appreciation of Little Bay and Great Bay as a
5 water-related natural resource, a wildlife
6 resource, and certainly those characteristics
7 elevate its importance and certainly the
8 appreciation that individuals who live in the
9 area would have of that resource, but it's not
10 necessarily identified or elevated by its scenic
11 qualities, and we review scenic qualities in a
12 larger context and have to use comparable
13 elements in reviewing scenic value, you know,
14 throughout the region.

15 Certainly I would not dispute the fact that
16 people appreciate, recreate and use this
17 resource and value it, but when you, when we
18 evaluate the scenic quality, we put that into a
19 larger context, and as somebody who grew up
20 along the shorelines of New England, and a
21 native of Rhode Island and sailed and swam along
22 Rhode Island shorelines, Massachusetts
23 shorelines, Maine shorelines, not so much New
24 Hampshire, and the associated estuaries and

1 landforms, Little Bay and Great Bay do not have
2 the elements that would elevate it above sort of
3 everyday scenic. And I don't want to diminish
4 the role of everyday scenic because people,
5 again, as I mentioned a moment ago, who use and
6 live near the resource value that scenic
7 quality, but when we put it in the context that
8 we do have to put it into, as a larger, in a
9 larger perspective of evaluating it against
10 scenic quality that goes from low, medium to
11 high, Great Bay does not rise to a level of
12 having high scenic values from a visual
13 perspective.

14 Q And to you maybe, but the Durham Residents might
15 feel differently or people in that area,
16 correct?

17 A Correct. But even in the master plan excerpt
18 that you cited, the reference is primarily due
19 to wildlife and natural resource values as
20 opposed to scenic values.

21 Q I looked through your Original Testimony which
22 is Exhibit 17, and I looked through Exhibit 51
23 which was the original Visual Assessment that
24 you did, and I looked through your Supplemental

1 Testimony in March of 2017, Exhibit 75, I've
2 looked through Exhibit 52. And I don't see any
3 mention of concrete mattresses in any of those;
4 is that correct?

5 A That's correct.

6 Q And the first time I see it mentioned is in your
7 testimony, your Supplemental Testimony on July
8 27th of this year in Exhibit 142; is that fair
9 to say?

10 A I think that's fair to say.

11 Q And according to that testimony on page 1, it
12 was included because questions were asked about
13 this at the Technical Session in June of 2017,
14 correct?

15 A Yes.

16 Q And in that recent testimony, you say that you
17 assessed how close a boater could potentially
18 get to the locations for the installation of
19 concrete mattresses. That's on page 1. Is that
20 fair to say?

21 A Yes.

22 Q And when and how did you do that?

23 A When and how did I do what? I'm sorry.

24 Q My question was, I cited to your testimony where

1 you said you assessed how close --

2 A I see. I'm sorry. Forgive me. Well, the
3 concrete mattress installation emerged after,
4 obviously, the initial filing of the VIA, and as
5 a result we went back and did more detailed
6 analysis of the concrete mattress installation
7 with several site visits, including one in
8 August of 2017 when I went out and actually got
9 on the water and reviewed -- this is the second
10 time we've been on the water for that -- and
11 reviewed the locations for the concrete
12 mattresses and then subsequent to that prepared
13 a visual simulation of the concrete mattress
14 installation on the Durham side of Little Bay.

15 Q What kind of boat were you in that day?

16 A I was in a kayak.

17 Q And so based, were you alone in the kayak or
18 were you with others?

19 A I was alone in the kayak.

20 Q And so based -- are you a kayaker?

21 A Yes.

22 Q So based on your using the kayak in the bay that
23 day, you made the determination that a boater
24 could not get very close to the Durham side of

1 the bay; is that fair to say?

2 A I made, you know, certainly at certain times of
3 the day with low tide, even a kayak on the
4 particularly on the Durham side due to the
5 length of the tidal flats would have difficulty
6 approaching it. In fact, couldn't get
7 relatively close because of those conditions.
8 And also while I was out paddling I did take
9 note of other types of boats that were present
10 and how they operated and the type of boats they
11 were. I also have experience as a sailor so I
12 took into account being in a sailboat or in a
13 motor boat as we did the evaluation of the
14 potential visual impact.

15 Q And what time of day were you out there?

16 A I think it was midday, early afternoon. One of
17 the visits on a Friday, if I'm not mistaken.

18 Q Do you have tidal charts that show what the tide
19 was at that point in time?

20 A I referred to tidal charts and certainly got
21 some advice on timing. I had to come from afar
22 so I was there when I was there, but I stayed
23 long enough to see both low tide and then high
24 tide coming in.

1 Q Was it low tide or low low tide?

2 A I don't recall whether it was low tide or low
3 low tide.

4 Q And you don't have any tidal charts that show
5 when you did that?

6 A As I said, I referred to tidal information prior
7 to undertaking the paddle. I do not have tidal
8 charts in our report, no.

9 Q I'm looking at your Original Testimony, Exhibit
10 17, and I'm looking at page 8, and you indicated
11 that photo simulations or visual simulations are
12 an important part of a viewshed analysis,
13 correct?

14 A Are you referring to lines 30 and 31 where I say
15 photosimulations, or visual simulations, provide
16 a photo-realistic perspective view of proposed
17 project elements in the landscape? Right at the
18 bottom of the page?

19 Q Yes. I mean, I think I'm actually elsewhere on
20 the page. But it seems kind of fundamental to
21 your testimony. Would it be fair to say that
22 photosimulations or visual simulations are an
23 important part of the viewshed analysis?

24 A Certainly.

1 Q And you said that the sites for photosimulations
2 were chosen for resources with a moderate high
3 or high sensitivity. I think that's on the next
4 page, page 9?

5 A Correct.

6 Q And they represent a point where the highest
7 amount of views is anticipated from the
8 resource; is that right?

9 A Right.

10 Q Now, Little Bay, this is in Exhibit 142,
11 electronic page 21, which is Exhibit C to your
12 testimony, Little Bay was determined to have a
13 moderate overall visual sensitivity? Is that
14 right?

15 A That sounds right, yes.

16 Q But you went on to say that nonetheless, you
17 prepared a narrative, photographs and visual
18 simulations that support the review of the
19 Project effects on Little Bay. Does that sound
20 right?

21 A Yes.

22 Q That assessment concluded that the change
23 associated with the transmission upgrade would
24 not be dramatic and would not substantially

1 affect any users and their boating and
2 recreational activities, and I'm looking at
3 Exhibit 142 now, and I'm looking at Attachment
4 C, page 1 of that Assessment. Does that sound
5 right?

6 A I would take your word for it, but I have no
7 reason to question that.

8 Q Okay.

9 A But let me see if I can --

10 Q You say that had, and this is again, your July
11 of this year testimony, the concrete mattresses
12 would be installed in the areas referred to as
13 tidal flats.

14 Now, what is your understanding of where
15 the concrete mattresses are likely to begin and
16 end in relation to the high tide mark?

17 A Both installations relative to the high tide
18 mark would be underwater.

19 Q All the time.

20 A Not all the time. No. Relative to the high
21 tide mark.

22 Q And you also say that on the Durham side the
23 starting width for the concrete mattresses is 24
24 feet.

1 A Correct.

2 Q And is that per line or is that covering all
3 three lines?

4 A No. My understanding and my recollection and I
5 think what is in our testimony is that the width
6 of the individual mattress installations are 8
7 feet each. And at the outset of the
8 installation, when they are basically abutting
9 each other, that would translate into about a
10 24-foot width. As they are extended into the
11 bay, they spread out somewhat as a finger, set
12 of fingers, so the width increases slightly
13 towards the outside edge as they get further
14 into the water or into the bay.

15 Q Do you know at what point the mattresses will
16 actually separate so they won't be abutting each
17 other?

18 A I'd have to look at the plans.

19 Q And did that, did you consider that when you did
20 your analysis?

21 A We considered every aspect of the mattress
22 installation that we had information about.

23 Q And you did a site visit on, you said June 29th,
24 I think. This was of 2017. This is an exhibit,

1 in Exhibit 142, electronic page 22. Does that
2 sound right?

3 A That sounds right.

4 Q And that's '17, that's not '18. Correct?

5 A Correct.

6 Q Is that when you took the pictures that are used
7 in Exhibit 142?

8 A I'd have to, the simulations that we prepared in
9 2018 were from pictures that I took in my 2018
10 site visit. Other pictures of Little Bay were
11 taken in 2017 and were used for the simulations
12 of the transition structures.

13 Q So then in Exhibit 142, electronic page 22 --

14 A I don't have the page numbers on my copy.

15 Q Okay. I've got it up.

16 A Okay.

17 Q Here.

18 A Okay.

19 Q This is where you refer, LandWorks conducted a
20 site visit on June 29th of 2017 for the
21 expressed purpose of reviewing the locations for
22 the concrete mats and to assess their potential
23 visibility and effects of that visibility,
24 correct?

1 A Yes.

2 Q And so you didn't do any photosimulations based
3 on those photographs? You did them on the ones
4 that you took a year later?

5 A Yes. Of the concrete mattresses, yes.

6 Q Why didn't you do any at that point in time?

7 A At the time, I mean, we were focused on the
8 transition structure and not the concrete
9 mattresses, and then subsequent to that it was
10 realized that we needed to take a closer look at
11 the visual effects of the concrete mattresses.

12 Q But I think you said in your testimony that it
13 was in Technical Session in June of 2017 that
14 you first became aware of the concrete
15 mattresses being a visual issue.

16 A Yes.

17 Q But you didn't do any photo simulations at that
18 point in time?

19 A No.

20 Q And when you took those pictures in June of '17,
21 what was your understanding of how many square
22 feet of concrete mattresses would be used?

23 A I don't believe at that time we were focused on
24 the actual concrete mattresses and their

1 dimensions.

2 Q What's your understanding today?

3 A My understanding is that the concrete mattress
4 design and construction is, has been developed,
5 but is, has been sort of slightly refined over
6 time and that there may be some dimensional
7 changes to those mattresses, but regardless of
8 any changes, the essential elements of the
9 mattresses remain the same and the essential
10 visual effect that we analyzed doesn't change
11 dramatically with, you know, slight variations
12 and in breadth distance in. We focus on really
13 what is the effect of seeing those elements, you
14 know, from the water.

15 Q So the fact that the estimate of square footage
16 of concrete mattresses went from a little over
17 5,000 feet to a little over 8,000 feet has no
18 bearing on your analysis?

19 A It's certainly a consideration, and we did, and
20 I have looked at that, but in the end, it did
21 not change the conclusion that we reached.

22 Q I want to show you some pictures that we
23 submitted as exhibits on Friday. They were
24 pictures that Durham Town Manager Todd Selig

1 took on October 5th of this year. It's TD/UNH
2 Exhibit 25. And I want to ask you just a couple
3 of questions about that.

4 The first picture is one of actually
5 Newington. I want to look at, these are some
6 pictures that he took, and I'll ask you to
7 accept, you know, my representation of sort of
8 shallow waters, you know, when they were out on
9 Little Bay, and then here's a picture of the,
10 from Little Bay towards the Durham side and then
11 here's another one that shows the cable, the
12 historic Cable House.

13 Now, do these look to you like they're
14 above from a similar vantage point to the one
15 that you, when you took those photos?

16 A Not quite.

17 Q How would you say they're different?

18 A So this last picture that you have up is at more
19 of an angle than we used or that I used. We
20 developed our simulation in an alignment
21 directly with the corridor because that would be
22 the full view, the maximum view that you would
23 have of the installation.

24 Q But from a tidal perspective, would you say

1 they're similar?

2 A You know, it's really hard to tell frankly. I'd
3 have to -- I'd have to look at our simulation
4 and compare it. So if I could have a few
5 minutes I would do that, if you would like.

6 Q Well, I don't want to take up too much of the
7 Committee's time. If you feel that necessary,
8 then maybe we could make a record request if the
9 Committee would be agreeable and you could
10 indicate some similarities and differences,
11 but --

12 A Sure. That would -- okay with me.

13 Q I'll leave that to the Committee in terms of
14 whether you think that's important enough to --

15 MR. IACOPINO: Hold on a second. What
16 exactly is the question?

17 PRESIDING OFFICER WEATHERSBY: The question
18 is this photo at roughly the same tide as Mr.
19 Raphael's photo?

20 MR. PATCH: Yes.

21 PRESIDING OFFICER WEATHERSBY: I'd rather
22 just take a minute right now and see if you can
23 answer that question.

24 MR. PATCH: Okay.

1 A Thank you. Could you put that picture back up,
2 please?

3 Q Sure.

4 A Thank you.

5 MS. DUPREY: Madam Chair, I'm just curious
6 so if we don't get information that isn't useful
7 here and taking up our time doing it whether or
8 not this is really ascertainable from a picture
9 on the screen to a picture in an exhibit. I'm
10 very concerned about the accuracy of the
11 information.

12 PRESIDING OFFICER WEATHERSBY: And it may
13 not be ascertainable, but I think the question
14 was to Mr. Raphael, can you determine whether
15 this is relatively at high tide. His answer may
16 be no, I cannot, or it may be yes, it is.

17 MR. PATCH: It was actually meant to be a
18 pretty general question and not one where I was
19 soliciting such specific information, but given
20 his answer I just thought --

21 A I'd be happy to take a stab at it. I couldn't
22 say with certainty because of the nature of the
23 photograph on the screen and the dark coloration
24 of the shoreline, but I would suspect that this

1 picture is actually at a higher, slightly higher
2 tide than the one at which the simulation was
3 taken. Higher tide level.

4 Q And I'm looking at Exhibit 142 which is your
5 Supplemental Testimony filed in July of this
6 year, and I'm looking at electronic page 21, and
7 there's a picture of Little Bay that you have,
8 actually I guess it's not electronic page 21.
9 But attached to your July 2018 testimony there's
10 a picture of Little Bay where you say, here we
11 are. Actually electronic page 24.

12 It says the purpose of this exhibit is to
13 demonstrate that the existing development and
14 specific structures along and near to the
15 shoreline create a visual pattern that will not
16 be undermined or altered by the visibility of a
17 short section of concrete matting as proposed in
18 this section. Did I read that correctly?

19 A Yes.

20 Q What did you mean by a short section of concrete
21 matting?

22 A I think what I was implying there was that if
23 you think of the overall scale of the concrete
24 mattress installation compared to the breadth of

1 the shoreline visible and the experience of that
2 shoreline and all the various elements that one
3 can see, the concrete mattress will not be a
4 dominant or even necessarily easily detectable
5 feature at any one time, particularly given the
6 potential mitigation measures related to the
7 concrete mattress that will diminish its
8 visibility over time.

9 Q And then the next page is a picture of Little
10 Bay apparently taken from a boat on Little Bay
11 looking toward the Durham side, correct?

12 A Yes.

13 Q And in the lower right-hand corner there's a
14 narrative that says that existing elements
15 provide a visual pattern which can readily
16 accommodate the proposed mats and their limited
17 visibility. And then you say that the actual
18 area of visible mats will be limited to an
19 expanse of approximately 24 to 28 feet wide and
20 34 feet long. How did you come up with 34 feet?

21 A Well, again, I based that dimension on the
22 original data that was given to me and that was
23 provided. That has subsequently changed
24 slightly, and I actually acknowledge that, I

1 think, in the narrative in which I believe I
2 refer to the fact that there may be some
3 modifications to the mattress over time, and we
4 were certainly aware of that.

5 But as I said earlier, even if the view of
6 the, even if the length of the concrete mattress
7 was extended in terms of its overall visibility
8 on a technical level, most of the extended
9 mattresses on the Durham side is on a very flat
10 section of the bay, and, therefore, it would be
11 flat on the ground as opposed to elevated at an
12 angle which would put it a little bit more into
13 the viewer's perspective, and with that it's
14 very clear that even if you're on the deck of a
15 higher boat seeing that expanse of flat mattress
16 from the channel in the bay or even closer would
17 not be of a scale that would compete or draw the
18 eye necessarily. And, again, particularly when
19 you consider the mitigation measures of tinting
20 the concrete mattress a dark color and also
21 allowing which, well, not allowing, but also
22 anticipating as I've had discussions about the
23 colonization of the mattresses by some sealife
24 or algae and discoloration from sediment over

1 time.

2 So the net result would be that the
3 mattresses are not going to look light in color
4 as concrete typically looks and will actually be
5 a darker color and even more hard to pick out.
6 Particularly, as I think you can see in some of
7 the photographs that you provided there is a
8 dark cast of light often on the shoreline due to
9 shadows, due to sun, due to the fact that the
10 shoreline vegetation and soil is dark colored.

11 So the ability of a shoreline to visually
12 absorb the concrete mattress installation given
13 atmospheric and local conditions as well as the
14 mitigation of its bright, you know, brighter
15 color, the concrete color, it just would not, I
16 would stand by the conclusions that I came to
17 that it would not, you know, rise to a level of,
18 you know, being so noticeable as to be
19 disconcerting to a boater.

20 MR. PATCH: Madam Chair, I apologize, but
21 it's going to take me a little longer than I
22 anticipated on cross. That was a very long
23 answer to a simple question about how you came
24 up with 34 feet.

1 BY MR. PATCH:

2 Q If I understood the first part of your answer,
3 you suggested that you made it clear that maybe
4 that number is not quite what you said it was in
5 this assessment is that fair to say?

6 A I said something to that effect. That the
7 number might be variable.

8 Q So it might being longer than 34 feet?

9 A It might be longer, yes.

10 Q And then you talked a little bit about tinting.
11 Is it Eversource's position at this point that
12 the concrete mattresses should be tinted?

13 A I don't know exactly what Eversource's position
14 is, but if we have talked about tinting and that
15 is a viable option and it could be exercised as
16 a mitigation measure.

17 Q And exactly what color would be used?

18 A I would imagine we would suggest, you know, a
19 tint that matches the color of the tidal flats
20 and the brown seabed.

21 Q Are you aware of the chemicals that would be
22 involved with the tinting and whether they would
23 have any impacts on species in Little Bay?

24 MR. NEEDLEMAN: Objection. It's beyond the

1 scope of this witness's testimony and expertise.

2 MR. PATCH: I'm just asking what he knows
3 since he brought up the tinting.

4 A I'm not aware of the chemicals in the tint, but
5 I know it's a common practice with concrete.

6 Q It's a common practice with concrete mattresses?

7 A With concrete that's been used in any number of
8 different types of application.

9 Q Have you seen it used in concrete mattresses?

10 A I've never encountered concrete mattresses until
11 now so I can't say.

12 Q So this is your first experience with concrete
13 mattresses?

14 A It is my first experience with concrete
15 mattresses.

16 Q Now, you say that the closest view at low tide
17 is at about a one-half mile from the shore due
18 to the presence of very shallow tide flats, so
19 shallow that even kayaks are unable to paddle
20 closer; is that correct?

21 A That's correct.

22 Q And what did you mean by the closest view?

23 A I mean from the, the closest view when on a
24 boat.

1 Q So in other words, boats can only -- now, you
2 understand, first of all, that Little Bay is
3 about a little over a mile across; is that
4 correct?

5 A It's, that's correct. A little more than a
6 mile, I think in some locations maybe a little
7 bit less.

8 Q So you're saying that boats can only use one
9 very narrow channel in the middle of Little Bay?

10 A At low tide.

11 Q And how close can they get at high tide to the
12 shore?

13 A I think it would depend on the draw of the boat.

14 Q And what about kayaks since that's what you were
15 in?

16 A I'm sorry?

17 Q What about kayaks?

18 A How close they could get?

19 Q Yes.

20 A Kayaks would be able to get right up next to it.

21 Q Right up next to the coast?

22 A Potentially. Yes. That would be at high tide,
23 and the concrete mattresses would be buried,
24 would be under the water. So I should note

1 that.

2 Q You say that mats will be quote, unquote, "an
3 unobtrusive element." Is that correct?

4 A Yes.

5 Q And Attachment C to your Supplemental Testimony,
6 Exhibit 142, electronic page 25, which I believe
7 is the one I have up on the screen here, filed
8 in July of this year, was this meant to be a
9 photosimulation of concrete mattresses?

10 A This particular exhibit?

11 Q This one was not, but this was the basis for
12 other photosimulations; is that correct?

13 A No.

14 Q No?

15 A No.

16 Q Okay. So on September 13th of this year, we
17 received some new exhibits which I'm going to
18 call up on the screen here. They've been marked
19 as Exhibit 186. Are you familiar with Exhibit
20 186? It's going to take me a minute to get it.

21 This is what we received on September 13th
22 of this year and this includes what appears to
23 be a photosimulation of concrete mattresses.
24 For example, there's one with a mattress and

1 there's one without. There's one with the
2 mattress and there's one without. There's one
3 with, I guess. Are these the photosimulations
4 that you did?

5 A Yes.

6 Q And one of them, is this the one that shows
7 tinting?

8 A I'm sorry? I didn't hear what you said.

9 Q Is this the one that shows tinting?

10 A No. We did not tint that.

11 Q Maybe you can help me with which one shows
12 tinting then.

13 A None of them do. One is, in each of the sets
14 there is, of a visual simulation there's an
15 existing conditions photo and then a simulation
16 photo, and so the one you just had up is the
17 simulation that we did.

18 Q Okay. I thought you did a simulation with
19 tinting.

20 A No, we did not.

21 Q You did not.

22 A No.

23 Q Now, I think these are referred to as revised
24 photosimulations. Actually, I'm looking at

1 Exhibit 142 where they're referred to as revised
2 photo simulations. Were there some original
3 photosimulations done before that? This is page
4 24 and 25 of Exhibit 142.

5 A There may have been -- forgive me, I don't
6 remember the specifics of the, of any revisions.
7 The only thing I can think of is that we may
8 have revised them to show the full extent of the
9 lines and conductors to the west of the
10 transition structure because originally it
11 hadn't shown the smaller distribution elements.
12 So that would be my explanation. But I'm not
13 certain. I don't know the sequence.

14 Q So I mean, it appears to me that you have at
15 three different points in time taken photos from
16 the bay that were used, some maybe not, some
17 maybe yes, for photo simulations. I think there
18 was June of 2017, there was June of 2018, and
19 then August of 2018? Is that right?

20 A You know, again, I can't recollect the specific
21 dates that we may have been out there for the
22 purpose of the simulation photos. I would say
23 that there were two sets of simulation photos,
24 one that were done, one set that was done to

1 represent the transition structure area, and
2 then the second one that I did from the kayak
3 for the purposes of simulating the concrete
4 mattress.

5 Q Okay. So when you say revised, you're not sure
6 why you said revised photo simulations. That
7 could be some other ones that --

8 (Court reporter interruption
9 for simultaneous talking)

10 Q I hadn't quite finished the question.

11 So there could be some other photo
12 simulations that you took before, you're not
13 sure of that, or there weren't any before that?

14 A No. There were no other photo simulations. I
15 think the revision, as I said a moment ago, may
16 have been due to just a slight alteration in the
17 transition structure simulation. So that's my
18 recollection, that we did an original simulation
19 of the transition structures, then we did a
20 simulation of the concrete mattresses and there
21 may have been a point where we revised the
22 transition structure because it had shifted
23 slightly in the engineering.

24 Q And does the Committee have all the photo

1 simulations you did of the concrete mattresses?

2 A Yes.

3 Q I can't find any photosimulations from the
4 perspective of the shore looking out into the
5 tidal flats when it comes to concrete
6 mattresses. Is that fair?

7 A They're all taken from out on the bay, yes.

8 Q And why is that?

9 A Why is that?

10 Q Yes.

11 A That would be because the visual effect would be
12 taken from the resource and evaluated from the
13 resource itself, the view from the resource, and
14 the resource in this case would be the waters of
15 Little Bay.

16 Q Wouldn't it be important how either people
17 living by Little Bay or people who were walking
18 on trails or otherwise using the land on either
19 side of the Little Bay, wouldn't it be
20 important, the visual perspective that they
21 would have of those concrete mats?

22 A Well, it depends. There are no identified
23 scenic resources on the land related to these
24 locations so we wouldn't typically evaluate in

1 any detail the concrete mattresses from that
2 perspective. Nonetheless, certainly would be
3 aware of and considered at length the view from
4 the land and certainly aware that there would be
5 property owners that might see the concrete
6 mattresses, but in both cases any homes are
7 typically above the water, and their views I
8 would say primarily would be of across the water
9 rather than looking directly down if they could
10 at all. I'm not aware of any trails that public
11 resources or scenic resources from which we
12 would conduct an evaluation on the shoreline.

13 Q I would ask you to look at Durham Residents
14 Exhibit 8, electronic pages, actually, 3 and 4,
15 are pictures that the Durham Residents had
16 included with their testimony.

17 For example, the one that I have up on the
18 screen here show the Durham side of Little Bay
19 presumably at low tide. That's what it says.
20 And a simulation, I guess I'd call it, of
21 concrete mattresses. Do you see that?

22 A Yes.

23 Q I mean, do you have any reason to think that's
24 what Little Bay looks or doesn't look like at

1 low tide on the Durham side?

2 A No reason to think that's not what it looks
3 like, no.

4 Q What about the location of those concrete
5 mattresses as they have them there?

6 A That does not, that does not look correct to me.

7 Q And why not?

8 A It looks a little bit, I mean I can't rely on
9 that. That's just somebody added some boxes
10 onto the photo without any real -- I don't know
11 what went into the preparation of that
12 representation, and I could not rely on it as an
13 accurate representation.

14 Q Are they too close to the shore or too far from
15 the shore or what's inaccurate about it?

16 A Again, I wouldn't get into the detail of that
17 without a further analysis and comparison of
18 what I'm seeing here to using some other data to
19 rely on.

20 Q What about the next picture? Does that look
21 like Little Bay at low tide?

22 A Certainly have no reason to say that it doesn't.

23 Q And if there were concrete mattresses there,
24 presumably they would show up, wouldn't they?

1 A I'm not sure. I mean, the color and the
2 atmosphere as portrayed in that photograph might
3 actually again not allow the concrete mattresses
4 to be visually prominent or distinct.

5 PRESIDING OFFICER WEATHERSBY: Attorney
6 Patch? May I interrupt for just a second?

7 MR. PATCH: Sure.

8 PRESIDING OFFICER WEATHERSBY: Could you
9 say again what exhibit this is? The Committee
10 is having trouble finding it.

11 MR. PATCH: Durham Residents Exhibit 8?

12 PRESIDING OFFICER WEATHERSBY: Durham
13 Residents Exhibit 8 is Supplemental Prefiled
14 Testimony of Jeffrey and Vivian Miller.

15 MR. PATCH: Yes, it includes pictures in
16 the context of that testimony.

17 MR. SHULOCK: I don't have any in my
18 folder.

19 PRESIDING OFFICER WEATHERSBY: We don't
20 have it in our, on our disk.

21 MR. SHULOCK: Supplemental Testimony.

22 MR. FITZGERALD: I have Exhibits 7 and 9.

23 PRESIDING OFFICER WEATHERSBY: We don't
24 have this. I would ask that this exhibit could

1 be provided to the Committee later today.

2 MR. IACOPINO: Your Exhibit 8, Ms. Brown.

3 MS. BROWN: Yes, we can re-provide it, but
4 it is as depicted by Attorney Patch.

5 PRESIDING OFFICER WEATHERSBY: We go from 7
6 to 9 in the Durham resident exhibits. I'm
7 sorry. Please continue.

8 BY MR. PATCH:

9 Q Okay. Now, when you're analyzing the impact of
10 concrete mattresses, did you try to find
11 examples of ones that were used in tidal areas
12 in other projects?

13 A I reviewed material about concrete mattresses
14 and photographs of them in other locations, yes.

15 Q Have those been included at all in anything
16 that's been filed with the Committee?

17 A I don't know. Not, I didn't include them.

18 Q And did you actually go and look at concrete
19 mattresses that were used in other projects?

20 A No. I didn't. I would just add that my sense
21 in looking at their design and looking at
22 photographs is that the effect is not dissimilar
23 to concrete boat ramps that you see in many
24 locations on ocean and lake shore type boat

1 launches.

2 Q So I have a picture up here on the screen also
3 from Durham's, Durham Residents Exhibit 8, of
4 concrete mattresses. Does that look like a
5 concrete mattress?

6 A I think it's one of several different designs I
7 am aware of for concrete mattresses.

8 Q Is it different than the design being proposed
9 to use here?

10 A It appears a bit different than my understanding
11 of what the design would look like.

12 Q In what way?

13 A Again, the number of blocks, I think, and the,
14 you know, based on the information I have were
15 slightly different in terms of breadth, width
16 and pattern.

17 Q I'm going to ask you to look at Counsel for the
18 Public Exhibit 17, and this exhibit includes
19 photographs of Little Bay at low tide. There
20 are a few of them. For example, the page I'm on
21 right now. So there are, I guess there are four
22 of them, five of them, different tides probably,
23 but clearly this is low tide and so is this one.
24 And so I would ask you if there were concrete

1 mattresses in the tidal flats as proposed by
2 Eversource in this docket, would they show up
3 there?

4 A Again, I don't want to answer a hypothetical. I
5 don't know the shoreline conditions. I don't
6 know where along the shoreline this would be.
7 You know, depending on how close you are, it's
8 possible that you would be seeing concrete
9 mattresses certainly, but in the longer view,
10 maybe not.

11 Q And so Denis Hebert who filed Supplemental
12 Testimony in this docket which has been marked
13 as Newington Exhibit 2 on page 10 had basically
14 said that he thought that a visual simulation
15 from the shoreline, visual simulation of
16 concrete mattresses ought to be provided by
17 Eversource. But if I heard you correctly
18 before, you know, you don't think that's
19 necessary.

20 A I didn't say that, I don't believe.

21 Q Okay. What did you say then?

22 A We did not do one. That's what I said.

23 Q And why not?

24 A We, because we did a visual simulation from the

1 water given that that was the scenic resource
2 from which we are charged by SEC rules to
3 conduct visual simulations from. So we did the
4 simulation from the scenic resource, the
5 shoreline, primarily along these areas are all
6 private property.

7 Q Isn't there a trail that runs through there, a
8 trail that residents walk on?

9 A I'm not aware of a formal trail on either side
10 because it's, again, private property on either
11 side of the right-of-way.

12 Q So how people view it from private property is
13 not important then?

14 A I didn't say that. I understand and respect
15 that people on private property will have a view
16 that may change, but I don't think that the view
17 of the concrete mattresses -- well, I'll leave
18 it at that.

19 Q Okay. I'm going to shift gears from concrete
20 mattresses, and I only have a few more
21 questions. I appreciate the Committee's
22 indulgence.

23 In terms of the height of poles, which in
24 many places will double in height in Durham

1 after the project is completed, could you
2 describe succinctly where they will be the most
3 visible?

4 A No. I would have to walk through my Visual
5 Assessment to be that specific, but certainly
6 aware of their visibility in the University
7 area. That's certainly one area that I'm
8 certainly aware of their visibility. You know,
9 I don't want to say most visible would be a, you
10 know, would be something that we'd want to
11 quantify or qualify as to what we meant by most
12 visible, but certainly they'll be visible as
13 they go through a portion of the UNH campus, but
14 they obviously are going to be underground at
15 the central location.

16 There are places at a couple of road
17 crossings where in those road crossings there
18 may be certain visibility in visible areas, but
19 the visibility, despite as you point out the
20 increase in height, the actual visibility
21 doesn't change. There are poles there now.
22 There will be posts there with this upgrade.

23 But to be responsive, forgive me, certainly
24 the UNH campus would be an area where, on either

1 side of the undergrounding, where they'll be
2 visible.

3 Q So I'm looking at Exhibit 52, and I think I
4 found at least five places in there where you
5 have photosimulations of the height of poles.
6 This is one of them. This is on page 11, which
7 I believe shows the polls from Little Bay, the
8 height of the poles, what they would look like;
9 is that right?

10 A Yes.

11 Q And then there's another one on 17. I think,
12 that's obviously on the UNH campus?

13 A Yes.

14 Q Is that right? And then on 20. That's another
15 photo simulation?

16 A Yes.

17 Q And then 37 has another one. 38, I guess it is.
18 Is that right?

19 A Yes.

20 Q And then on 41. That's another one, correct?

21 A These are all just, obviously, just simulations
22 that we conducted.

23 Q And they show what the project, particularly the
24 proposed taller and differently configured poles

1 would look like from certain vantage points in
2 Durham, correct?

3 A Correct.

4 Q How were those vantage points chosen? How did
5 you choose which one to do photo simulations of
6 and which ones not?

7 A Well, we certainly knew that we needed to do
8 some simulations on the UNH campus. This
9 particular simulation across 5 is, I think is
10 representative from the Frost Drive is, of the
11 road crossing in that neighborhood, and we were
12 charged, again, via the rules to select, you
13 know, viewpoints from public scenic resources
14 from which potential viewers might see the line
15 and the changes in the structure heights and so
16 we tried to put together a representative
17 sampling. I mean, there are many visual
18 simulations in our report. So I believe we
19 provided a healthy and appropriate
20 representation from different locations within
21 Durham.

22 Q I've got up on the screen, it's map 13 from
23 Exhibit 148. Is it fair to say that this shows
24 a structure associated with the Project that's

1 proposed to be quite close to the road?

2 A It's hard for me to tell from this scale. I
3 mean, obviously the map shows structures. I
4 can't, my version is a little blurry to kind of
5 locate the specific structures close to the
6 road.

7 Q Are you familiar with that location?

8 A Again, I can't read the lettering in this so I
9 can't speak to the location.

10 Q I'll represent to you this is the same as what's
11 up on the screen --

12 A Thank you.

13 Q -- that you can take a look at.

14 A Okay. Yes, now I see where it is. It's at the
15 intersection of Newmarket Road and Longmarsh
16 Road in the Town of Durham.

17 Q And did you do a photosimulation from any angle
18 of this particular location?

19 A No, we did not because there's not a scenic
20 resource right in this particular location from
21 which to develop a simulation.

22 Q Okay. That's all the questions I have. Thank
23 you.

24 A Okay.

1 A Okay.

2 Q I believe that's Applicant's Exhibit 17. And if
3 you could start by taking a look, please, at
4 page 1 where you are talking about your
5 background and I believe you have stated that
6 you have a degree in landscape architecture; is
7 that correct?

8 A That is correct.

9 Q And you received degrees from Tufts, an
10 undergraduate degree in English from Tufts and a
11 graduate degree in landscape architecture from
12 Harvard in '72 and '77 respectfully. Is that
13 correct?

14 A That's correct.

15 Q Is it fair to say that neither of those degrees
16 focused on analytics or statistical analysis?

17 A No. You know, in the study of landscape
18 architecture it's an interdisciplinary study so
19 we do get into some analyses occasionally with
20 regard to statistics, but everything from
21 demographics to being aware of traffic counts
22 for development projects so we do have training
23 in areas related to planning. I studied
24 regional planning for a three-year program so

1 it's a broad spectrum, of course. Landscape
2 architects are often trained as generalists and
3 interdisciplinarians so we are hopefully
4 conversant in various languages, if you will,
5 that are used by different professionals.

6 Q Okay. And so it's -- you're a generalist.

7 That's correct. That's fair to say, correct?

8 A With the qualification that in certain areas I
9 would say I'm a specialist, and, obviously,
10 hopefully, Visual Assessment is one area where
11 we've specialized and my practice has
12 specialized. Another is park planning and
13 design. I have several parks under construction
14 right now.

15 Q And with respect to the Visual Assessment, is
16 there hard science related to that? That's
17 where I'm going with these questions.

18 A Absolutely. Absolutely.

19 Q Hard science.

20 A Yes.

21 Q As in -- let me just ask you. Specifically, do
22 you have statistical analysis that you include
23 as you do your Visual Assessment?

24 A Well, I guess you would say that in the manner

1 in which we conduct our evaluation and the use
2 of ratings and numerical metrics, again, I'm not
3 a statistician, but I would think that is using
4 numerical analysis and numbers to assess
5 potential visual effect.

6 Q So if we were to take apart the methodology you
7 used in conducting your Visual Assessment to
8 reach the low, moderate and high readings, there
9 are hard numbers behind that? There is a hard
10 math behind that; is that what you're saying?

11 A I don't know what you mean by "hard math." I
12 would just say that we use a numerically based
13 analysis to rate visual effect.

14 Q And those numbers are correlated to an
15 assessment that you make based on intrinsically
16 subjective criteria, correct?

17 A No.

18 Q No.

19 A No, no.

20 Q And why not?

21 A For example, in one step of the analysis we
22 would use the number of structures visible from
23 a vantage point to provide thresholds for visual
24 effect.

1 Q So if you're looking at the number of
2 structures, are you also taking into
3 consideration whether those are historic
4 structures, for example?

5 A Historic structures in what sense?

6 Q Historic resource.

7 A Oh, historic resources? We, we would review
8 historic resources within the context of their
9 scenic value and vantage points as a location
10 where people might see the proposed Project.

11 Q And is that reflected in the assessment you did
12 here?

13 A Yes, to the extent that we looked at any
14 historic resources.

15 Q So in your review of the impacts in Newington,
16 did you look at the historic resources that
17 exist in the Town of Newington?

18 A Yes. I mean, you know, the Newington Historic
19 District was certainly something we were aware
20 of and incorporated into our analysis.

21 Q And you're aware that part of that district is
22 on Nimble Hill Road in Newington, correct?

23 A Yes.

24 Q We'll get to that in a little bit.

1 So I want to go back here for a second. I
2 probably missed it in reviewing your Visual
3 Impact Assessment, but it's not clear to me that
4 you actually did take into consideration a
5 historic structure versus some other structure.
6 Where did I miss that in your analysis?

7 A Well, I guess insofar as our analysis included
8 views from or adjacent to historic resources of
9 the proposed project, I think you can see that
10 certainly in some of our visual analysis, in our
11 discussions of the Nimble Hill Road and the
12 Nimble Hill Road's addendum, but, again, our
13 charge was not to evaluate the potential effect
14 on historic resources in and of themselves.
15 That was done by others in this case.

16 Q But it could be that a historic structure would
17 be a structure but not necessarily its
18 significance as a structure. Is that fair to
19 say?

20 A Well, again, certainly aware, for example, that
21 the Frink Farm was a historic resource as well
22 as a conservation resource. So to the extent
23 that we were aware of that, we understood that
24 there was a historic value there.

1 Q And that's reflected in your low, moderate and
2 high rating?

3 A In terms of the visual effect, yes, from viewing
4 from that resource.

5 Q Okay. Just remember that. We'll get to talking
6 a little bit more about Nimble Hill Road in a
7 minute.

8 A Sure.

9 Q So let me also refer you to your Prefiled
10 Testimony where you've talked about, on the
11 first page, you said that you started LandWorks
12 in 1986, correct?

13 A Correct.

14 Q And you've served both public and private
15 sectors clients primarily in Vermont; is that
16 correct?

17 A No.

18 Q That's not what your Prefiled Testimony says?

19 A Well, I mean, maybe --

20 Q If you look on page 1 of your Prefiled
21 Testimony, line 17. You state, "I founded
22 LandWorks in 1986 and have served public and
23 private sector clients primarily in Vermont."

24 Do you not say that in your Prefiled

1 Testimony?

2 A Well, I guess I did, but actually in the last, I
3 would say, ten years our practice has expanded
4 substantially to include all of New England and
5 other locations in the United States.

6 Q So your testimony is not correct?

7 A I think, I think that's sort of been a standard
8 response that we do, certainly the bulk of our
9 work is in Vermont, but we have every, you know,
10 we always have at least one or two projects
11 elsewhere.

12 Q How many linear transmission lines projects have
13 you worked on in New Hampshire?

14 A This is the first one.

15 Q So would it be fair to say that you have no
16 experience assessing the visual impact of a
17 linear utility project in New Hampshire other
18 than this one?

19 A Well, I had, I did preliminary review and work
20 on the Northern Pass so I have some experience
21 from that. And then transmission structure and
22 substation review I've conducted on behalf of
23 another client in another project, and we've
24 done other work for Eversource that involved

1 transmission lines and substations.

2 Q My question was specific to a linear project.

3 A Each of those sites involved some linear
4 transition line sections. But I've been --
5 yeah, okay.

6 Q All right. So first you said that this was the
7 first one you did and then you said you had
8 other experience.

9 A Well, I remembered that I worked on several
10 other projects in New Hampshire that did involve
11 transmission structures, and I've done numerous
12 ones in Vermont.

13 Q With respect to the scope of work that you've
14 done for the Seacoast Reliability Project for
15 Eversource, your Visual Impact Assessment, have
16 you done this level and this scope of work for
17 any other linear utility line project in New
18 Hampshire?

19 A No.

20 Q Thank you. So I'd also like to draw your
21 attention to your Prefiled Testimony on pages 3
22 through 4. Again, we are in Applicant's Exhibit
23 17. And toward the top of the page, well,
24 bottom of page 3 into the top of page 4, you

1 describe the approach that you took for
2 assessing the Project and you discuss that you
3 analyzed this consistent with the provisions of
4 New Hampshire statute RSA 162-H; is that
5 correct?

6 A Yes.

7 Q And then you go on to say that the analysis
8 included items 1 through 4. At the top of page
9 4.

10 A Correct.

11 Q Are you quoting from the statute?

12 A No. Not specifically.

13 Q Are you quoting from one of the rules? One of
14 the SEC rules?

15 A No. Providing just an overview of the work that
16 we did within the parameters of the SEC rules.

17 Q So those items 1 through 4 are, is it fair to
18 say those are your general interpretation of
19 what the New Hampshire statute and the SEC rule
20 require?

21 A No. The rules require what the rules require.
22 This is an overview of a process that is
23 standard with most Visual Assessments that are
24 done whether they're in New Hampshire, Maine,

1 Vermont or elsewhere. So it's a general
2 introduction to what we do and what we cover.

3 Q That wasn't my question.

4 A I'm sorry. But I'm trying to explain my answer
5 to the question.

6 Q Let me see if I can clarify.

7 A Please.

8 Q So my question is, you're not quoting from the
9 statute, correct?

10 A Correct.

11 Q And you're not quoting from the rule, correct?

12 A Correct.

13 Q And so you are trying to summarize what New
14 Hampshire law requires; is that fair to say?

15 A No. I wouldn't call this a complete summary.
16 As I said a moment ago, it's a general overview
17 of the process that we undertook.

18 Q Okay. So that's the process you used. How it
19 relates to the law is not what you were hired to
20 do, correct?

21 A No. Of course not.

22 Q Okay.

23 A We were hired to respond to the rules and
24 address the rules of the SEC.

1 Q So if you're responding to the rules, you either
2 have to say these are the rules and these are
3 what we're applying; is that correct? Is that
4 what you did?

5 A Yes. We conducted our analysis to address the
6 rules as articulated in the statute for the
7 review of a project of this nature.

8 Q So could you point me, please, to where in the
9 rules or where in the statute it says that the
10 findings of those four enumerated items are then
11 weighed in concert with either relevant factors,
12 I'm quoting from your Prefiled Testimony, such
13 as the regional context of the project area and
14 its significance within the State of New
15 Hampshire. Can you point to the statute or the
16 rule and tell me where you're getting that
17 standard?

18 A The rules lay out certain requirements. The
19 rules do not necessarily describe the
20 methodology or the methodology you might
21 undertake to address what's required by the
22 rules. So when we undertake a project, we look
23 at a number of things that weigh into our
24 understanding of the site, the setting, the

1 project area. We can't, you know, the rules
2 themselves certainly are addressed and followed,
3 but what's in between, what gets you to the
4 answers to the analysis set forth is the
5 methodology, and that's not necessarily spelled
6 out in the rules.

7 Q So the rules don't tell you that you need to
8 weigh relevant factors such as the regional
9 context of the project area and its significance
10 within the State of New Hampshire? That's part
11 of the methodology you came up with to try to
12 reach a conclusion?

13 A No. Actually, we are asked to look at the
14 significance of scenic resources and whether
15 they are, you know, municipal, regional,
16 statewide or national, of national significance,
17 and that weighs into how you evaluate in the
18 process of the methodology.

19 Q So you can't point to a rule and tell me that's
20 where you got that standard that you're using.
21 Is that correct?

22 A No. That's not correct. I could spend time and
23 show you throughout the methodology and the
24 process that we undertook in the Visual

1 Assessment how we addressed the specific rules.
2 For example, the rules require that you prepare
3 simulations. So there are stimulations. The
4 rules state what you're to look at in terms of
5 the visual effect on the user, and those are
6 incorporated into our methodology and stated as
7 such.

8 Q What I'm concerned about is that you've made
9 statements in your Prefiled Testimony that talk
10 about standards that you're applying and that
11 you've grounded these in New Hampshire law. And
12 what I'm failing to understand is where you
13 have, where have you pulled those standards that
14 you're using in your assessment? For example --
15 and my example was where does it say in the rule
16 that it's, the area that you're analyzing is the
17 significance within the State of New Hampshire,
18 and that's one example that I'm using. From the
19 way you have stated what you are weighing in
20 your assessment.

21 MR. NEEDLEMAN: Madam Chair, I was waiting
22 for the question to be over. I object at this
23 point. The witness has already answered that
24 throughout his report testimony he's made

1 reference to the rules and it's not a memory
2 test. If there are specific things here that
3 she wants the witness to go back and identify,
4 she can. As I'm sitting here, I'm not going to
5 suggest the answer. I can answer that question
6 and point to the rules. So if the witness wants
7 to be given time to do that, we can do that.

8 MS. BOEPPLE: Madam Chair, the witness has
9 made representation in his Prefiled Testimony
10 that he has reviewed the statutes, he's reviewed
11 the rules and he has used that as the basis for
12 his assessment. He's used language in his
13 Prefiled Testimony that I'm just trying to
14 ascertain where that came from. And if he
15 doesn't know, that's fine. But he's made a
16 representation that there are standards he's
17 used in his assessment. And I think it's
18 important for the SEC to hear where his, where
19 that came from.

20 PRESIDING OFFICER WEATHERSBY: I'm going to
21 overrule the objection, but try to be more
22 targeted and ask him a question and move to the
23 next.

24 MS. BOEPPLE: Thank you.

1 BY MS. BOEPPLE:

2 Q Okay. Mr. Raphael, why don't we try this.

3 You've also stated that the overall, the
4 other thing that you have to weigh once you've
5 considered the findings of those 1 through 4
6 items that you enumerated in your Prefiled
7 Testimony that you're also going to weigh it
8 with the overall visibility and visual effects
9 of the Project as a whole. Is that correct?
10 Did you say that in your Prefiled Testimony?

11 A I did.

12 Q And again, I'm puzzled by the conclusion that
13 you seem to have reached that you need to
14 include in your assessment that the overall
15 visibility and visual effects of the project as
16 a whole as opposed to perhaps a component part
17 of it, for example, within the Town of
18 Newington.

19 PRESIDING OFFICER WEATHERSBY: Attorney
20 Boepple, that wasn't a question, the fact that
21 you were puzzled. So if you could rephrase
22 that --

23 MS. BOEPPLE: Sure.

24 PRESIDING OFFICER WEATHERSBY: -- and just

1 be more direct. Where in the rule did you find
2 X.

3 BY MS. BOEPPLE:

4 Q Where in the rules did you find that. The
5 Project as a whole as opposed to specific impact
6 on specific area.

7 A You do both. You look at a Project on a
8 location by location basis, in detail in
9 Newington, in detail in Durham, but then you
10 take into account the Project as a whole. You
11 cannot look at each section in isolation. You
12 have to weigh and think about the Project as a
13 whole. The rules ask us to evaluate viewer
14 effect, and viewer effect can be taken into
15 account from scenic resources as a whole in the
16 region or specific scenic resources.

17 Q So you've answered that you have to take into
18 account the Project's impact as a whole. Is
19 there something in the statute that says that
20 that's what you have to do?

21 A No, and there's nothing in the statute that says
22 you --

23 Q Fine, thank you.

24 You've also talked about rules and they

1 tell you how your Visual Impact Assessment
2 methodology should be designed, correct?

3 A No. It doesn't say how it should be designed.
4 It identifies a set of criteria that you need to
5 address, and how you address that is what is
6 involved in a full Visual Assessment.

7 Q Okay. I was not very clear on that question. I
8 apologize.

9 A Okay.

10 Q Do the rules suggest that there are elements
11 that should be included in your assessment, for
12 technical elements that should be included, for
13 example, under rule Site 301.05, effects on
14 aesthetics, B, the Visual Impact Assessment
15 shall contain the following components. Do you
16 have that section of the rule?

17 A I do.

18 Q And do you see where it includes a description,
19 there's a recitation of certain things to
20 include. Do you see that?

21 A Correct. I do. Yes.

22 Q And do you see where it also includes based on
23 both bare ground conditions using topography,
24 screening only?

1 A Yes.

2 Q Okay. And again, maybe I missed this. Can you
3 tell me whether you did in fact consider bare
4 ground conditions in your assessment?

5 A Yes. We did.

6 Q Okay. And for the benefit of the SEC and for my
7 edification, I did miss that and I did look
8 through your assessment. Where was that
9 included?

10 A It was not included in the assessment, but we
11 did conduct a bare-earth visual analysis, a
12 viewshed analysis, that we used internally.

13 Q But it's not reflected in what we see, what the
14 SEC sees --

15 A It was not included in this report.

16 Q I see. And you didn't think that was necessary
17 to include it or why didn't you include it?

18 A In this particular instance, you know, the
19 bare-earth analysis is, you know, really useful
20 when you're looking at topography and you have
21 a, you know, highly varied terrain that a
22 project is proposed for. In this case, the
23 bare-earth analysis yielded, you know, obviously
24 widespread visibility without any vegetation,

1 and unfortunately, GIS data typically does not
2 provide, for example, building footprints or
3 heights. So the bare-earth analysis falls down
4 in a more urban area in that it wouldn't
5 accurately portray portions of the landscape
6 that were perhaps blocked by buildings and other
7 man- or human-made structures.

8 Having said that, we did look at it. We
9 were aware that, you know, obviously without
10 vegetation there would be increased visibility,
11 but there is vegetation, and again, in
12 accordance with professional practice, you do
13 account for vegetation, obviously, in assessing
14 whether something is visible or not visible as
15 well as things like topography.

16 But again, you're challenged in more of an
17 urban developed environment that we lack
18 detailed data on buildings and build form which
19 in a bare-earth analysis, if available, would
20 decrease visibility. And in an area like this
21 which is very, very level, we didn't feel like
22 the bare-earth analysis provided us with any,
23 you know, detailed information, A, that we could
24 rely on or B, we didn't already expect when you

1 conduct a bare-earth analysis.

2 Q So you made the determination that the
3 consideration of the bare ground analysis was
4 only necessary in the initial phases of your
5 assessment; am I mischaracterizing that?

6 A No. I think we looked at it later on in the
7 assessment. You know, the bare-earth analysis
8 requirement or interest has emerged certainly as
9 something that you look at, but it's is just one
10 piece of information along with others that you
11 rely on, but, again, viewshed analyses are only
12 a point of departure in a visual analysis. We
13 also check visibility through other means on the
14 ground and using other technical analyses tools
15 such as 3-D site sections and things of that
16 nature.

17 Q So you put that aside, and you say well, we've
18 got an existing urban environment, for example,
19 correct, and the impact of the Project should be
20 analyzed what exists on the ground today; is
21 that fair to say?

22 A I think that's fair to say.

23 Q Okay. So let me direct you to your Supplemental
24 Prefiled Testimony, where you have talked about

1 Newington and did an additional assessment of
2 Newington, and I believe it would be page 3 of
3 your Supplemental. And I believe your, this
4 portion of your Supplemental Testimony was
5 directed because you saw Denis Hebert's Prefiled
6 Testimony that he submitted where he talked
7 about Nimble Hill Road; is that correct?

8 A Yes.

9 Q So you went back and you looked at Nimble Hill
10 Road again in Newington; is that correct?

11 A Yes.

12 Q And you had not considered Nimble Hill Road in
13 your initial assessment or you had classified it
14 differently. Maybe I should say you classified
15 it differently; is that correct?

16 A When we began this Project I think four or more
17 years ago, Nimble Hill was not at that time
18 listed as a scenic road. I believe in the
19 interim the Town took over Nimble Hill Road and
20 the Town has a policy of designating all, I
21 forget the class number, all of that class of
22 road as scenic roads, and when we became aware
23 of that, certainly through the testimony, we did
24 respond accordingly.

1 Q Right. You responded. And you said the Town
2 has designated this as a scenic road, correct?

3 A Yes.

4 Q And you did not accept the Town's assessment; is
5 that correct? You went and did your own
6 analysis?

7 A I wasn't aware of the Town assessment.

8 Q The Town designated it a scenic road, correct?

9 A Yes. That's a designation, not an assessment.

10 Q Did you do any research to discover why the Town
11 might have made a designation of Nimble Hill
12 Road as a scenic road?

13 A Yes. Because the town, all, I think it's Class
14 IV roads? Forgive me. I can't remember the
15 class name. Class II. All Class II roads in
16 Newington are designated as scenic roads.

17 Q So I'm going to direct your attention to what I
18 have up on the screen which is Newington's land
19 use map that shows percentages of the town where
20 there's commercial and industrial. You see a
21 large, large portion of this pink area, I
22 believe, is Pease Air Force base. Have you seen
23 this map? This was part of the Prefiled
24 Testimony. This is Newington's Exhibit 1-1, and

1 it was part of Denis Hebert's Prefiled
2 Testimony.

3 A I think I do recall it, yes.

4 Q And did you look at any town resources like this
5 map when you were going back and analyzing
6 Nimble Hill Road?

7 A We had conducted analysis of the Town Plan and
8 any references in the Town Plan particularly to
9 scenic resources, but I did not go back and look
10 at this map particularly when we did the Nimble
11 Hill addendum, no.

12 Q So I'm showing you the map because I think it
13 illustrates what the Town was trying to convey
14 through Mr. Hebert's testimony, and some of my
15 questions as to why you arrived at a different
16 conclusion about the impact on Nimble Hill Road.

17 So if you can see on the map the two areas
18 where there's remaining residential. Here. And
19 there. Those two areas I just pointed to?

20 A Okay.

21 PRESIDING OFFICER WEATHERSBY: Do you have
22 a question?

23 Q Okay. I just want to make sure you can see what
24 I'm talking about.

1 A It's very hard to pick out.

2 Q Will you accept my representation --

3 A Certainly.

4 Q -- that there's two areas on the map that are
5 residential areas.

6 A I mean --

7 Q Here and here. These two areas. Will you just
8 accept my representation that that's what those
9 are?

10 A Well, I accept the fact that this is a map that
11 shows different land uses and how maybe they've
12 been designated, but when you say these are the
13 only two areas where there's residential
14 development in the Town I wouldn't be able to
15 confirm that.

16 Q I wasn't asking that. I'm just asking --

17 A So I was unclear what you were asking.

18 Q I'm asking you if you can see on the map, the
19 land use map for the Town of Newington, we have
20 two areas that are primarily designated as
21 residential. If you can't see it --

22 A I mean, again, I don't think I agree with your
23 characterization, and I'm not trying to be
24 contrary, but it says land uses as a percentage

1 of the town's land area. Seems to be, I mean I
2 don't really know what this map is really trying
3 to say when I look at it.

4 Q Okay. Why don't I try and ask you a question
5 and just would you agree that this is a map that
6 the Town uses and it's part of, it's a Town
7 resource. They have this map, they use it to
8 talk about how there are different land uses
9 within the Town and different percentages for
10 land uses within the Town. Would you just
11 accept that representation?

12 A Sure.

13 Q Okay. Thank you.

14 And the reason I have this up is I would
15 like you to see in the context of your
16 assessment of Nimble Hill Road, you can't
17 clearly see Nimble Hill Road on this map, but
18 would you accept my representation that it runs
19 through the primarily residential area of this
20 section of the map?

21 A Well, again, it runs through an area designated
22 that it's 27 percent residential, it looks like?
23 So I mean, again, I guess I would certainly
24 accept, if you say so. I can't tell from the

1 map.

2 Q The 27 percent on this map is not strictly this
3 area. It's this area and this area. Okay? If
4 Nimble Hill -- well, let me ask you this. You
5 went back, you conducted an assessment of Nimble
6 Hill Road, and you arrived at a conclusion that
7 the Visual Impact Assessment of the Seacoast
8 Reliability Project will not have an
9 unreasonable adverse effect; is that correct?

10 A That is correct.

11 Q And one of the conclusions you came to or part
12 of your assessment was you decided that Nimble
13 Hill Road, while the Town may have designated it
14 as a scenic road, you didn't find that there
15 were, for example, scenic vistas on that road or
16 that it would be a destination road; is that
17 correct?

18 A I'm not sure that's exactly what I said. I
19 think I would go back and want to reread the
20 particular language. If you want to give me a
21 quote, I'd be happy to respond to that.

22 Q Yes. Your Supplemental Prefiled Testimony, on
23 page 4, you state, "Nimble Hill Road has some
24 pleasant scenery and historic buildings, but it

1 is not a unique road and does not possess long
2 distance views or outstanding scenery to draw
3 attention and stand out as a high value scenic
4 resource."

5 A Correct.

6 Q "This is not a road that one would drive
7 specifically to experience scenic values,"
8 correct?

9 A Correct.

10 Q "In summary, the resource has features such as
11 tree line sections and some visible stone walls
12 that are fairly common among local roads," et
13 cetera. Correct?

14 A Correct.

15 Q And as such you determined that it had a low
16 rating; is that correct?

17 A Well, we gave it a high rating for its cultural
18 designation. It clearly is important to the
19 Town as obviously, I mean, again, they
20 designated many roads as scenic, but when we
21 look at the scale of scenic quality and the
22 view, you know, from the scenic resource, we
23 have to establish whether this is something that
24 is, again, has a higher scenic value and other

1 than surrounding roads typical of this area, and
2 actually I think there are other roads in the
3 area that probably have higher scenic values and
4 experiences, but when you look at scenic roads
5 they're typically designated because they have
6 outstanding or unique views or characteristics
7 that the Town, you know, obviously highly values
8 and that others would recognize as being highly
9 valued.

10 This, certainly the Town did not do a
11 detailed analysis of what constitutes scenic or
12 high value scenic. They simply designated all
13 their Class II roads as scenic roads, and we
14 have to take that at face value obviously. But
15 again, you know, I wouldn't, you know, I stand
16 by the analysis and the conclusions that I
17 reached in that analysis.

18 Q So can you understand then that Newington is
19 concerned because they have so little left, and
20 maybe a road like that while it may not rise to
21 a high level of scenic value nevertheless
22 because so much of the rest of the Town has been
23 taken up by the Pease Air Force base,
24 commercial, industrial zone, infrastructure

1 projects, that that type of a road, Nimble Hill
2 Road nevertheless is a very, has a high
3 importance to the town and preservation of that
4 is important?

5 A I would not refute that, but I would also say
6 that the analysis did not yield in terms of the
7 way we approach our methodology that the scenic
8 values and scenic quality was going to be
9 impacted by the one crossing that we identified,
10 and a few views filtered through the trees would
11 not be unduly undermined in an unreasonable
12 fashion.

13 Q And you arrived at that conclusion because you
14 weren't looking at just Newington as a whole; is
15 that fair to say?

16 A No. We arrived at that conclusion by driving
17 Nimble Hill Road, analyzing Nimble Hill Road,
18 looking at the Town's language with regard to
19 Nimble Hill Road and what they did or did not, I
20 mean, if the Town had -- well, I won't
21 conjecture, but I would just say, again, the
22 effect of this Project on Nimble Hill Road is
23 limited. It does not affect the greater length
24 and the bulk of the road. The primary impact

1 would be at one crossing which has been in
2 existence for many, many years already so
3 there's not a significant new intrusion other
4 than the fact that the structures will be
5 different and will change, but the corridor has
6 always been there for the last number of years,
7 and it's going to still be there with this
8 Project.

9 Q Can't you have a change that's so dramatic, even
10 if you have a corridor that's there, that you
11 have structures that are so much larger and
12 additional lines, can't you have that change be
13 enough to have an impact?

14 A Again, it depends on the locale and the
15 situation.

16 Q Okay. I just want to briefly touch on the
17 concrete mattresses.

18 During your testimony this morning I
19 believe you stated that you had, there was
20 sufficient design of the concrete mattresses for
21 you to be able to sufficiently complete an
22 assessment of the visual impact. Is that a fair
23 summary of what you testified to this morning?

24 A Yes.

1 Q I believe you also testified that this was your
2 first time assessing the visual impact of
3 concrete mattresses; is that correct?

4 A Specifically, yes.

5 Q So how confident are you then that you have
6 enough information to accurately assess the
7 visual impact?

8 A I'm confident.

9 Q What if you're wrong? What if the concrete
10 mattresses are much more visible?

11 A I don't believe they will be.

12 Q What if you're wrong?

13 A I don't know. What if I'm wrong. I mean, I
14 don't think I'm wrong. And even if I'm not
15 wrong, I mean even if I am wrong, if they're
16 more visible, again, I think I provided evidence
17 to say that the presence of the concrete
18 mattresses in the context of Little Bay would
19 not rise regardless to a level of
20 unreasonableness because it is developed
21 shoreline, there are many homes visible of
22 different types and sizes, there are docks,
23 there are boat launches at Adams Point. There's
24 a laboratory with a big footprint. This is not

1 a pristine undeveloped landscape, and it's not
2 unreasonable to expect that given the fact that
3 there has been an underground line through
4 Little Bay for many, many years that it's
5 unreasonable to expect that an upgrade would
6 dramatically change people's understanding and
7 knowledge of that.

8 And you know, based on my experience on the
9 water and my experience looking at shorelines, I
10 don't think I'm wrong, but if I am, the size and
11 scale of the concrete mattresses relative to the
12 overall landscape that the viewer has to take in
13 really accommodates something of this size and
14 scale.

15 Q And you did not assess it from the land side,
16 correct?

17 A No, I looked at it from both shorelines.
18 Absolutely. We did assess it.

19 Q Okay. And your assessment was that it's not
20 going to have much of an impact on the viewer.

21 A I mean, I think initially it will definitely
22 read as a change some of the time when it's
23 revealed at low tide, but, you know, again, low
24 tide is a time when people aren't out and about

1 mucking around the shoreline and the tide comes
2 and goes so it's a variable view. And as I
3 mentioned, I think there will be inherit
4 mitigation that will occur with sea life and
5 bottom life colonizing the concrete mattresses,
6 and I've read information to that effect and I
7 think that the notion of tinting it or it
8 becoming, the color becoming subdued over time
9 just to the coming and going of the sediment
10 will also diminish its visibility if nothing
11 else is done.

12 So I don't think it rises to the level of
13 being unreasonable even if I'm wrong.

14 Q Okay. I have no further questions. Thank you.

15 PRESIDING OFFICER WEATHERSBY: Thank you.
16 Let's take a break and be back at 11:25 at which
17 time we will hear Ms. Ludtke for the
18 Conservation Law Foundation, and Durham
19 Residents, Attorney Brown.

20 (Recess taken 11:12 - 11:24 a.m.)

21 PRESIDING OFFICER WEATHERSBY: Ms. Ludtke.
22 You may proceed.

23 **CROSS-EXAMINATION**

24 **BY MS. LUDTKE:**

1 Q Good morning, Mr. Raphael.

2 A Good morning.

3 Q My name is Leslie Ludtke, and I'm representing
4 the Conservation Law Foundation as a member of
5 the Conservation Law Foundation.

6 A I'm a supporter, too.

7 Q Excellent. Like to hear that.

8 A Okay.

9 Q I'll try not to repeat some of the questions,
10 but, of course, we all prepare in advance and so
11 there may be a little bit of repetition. I
12 apologize for that.

13 Let me start with your Exhibit 17 which is
14 the first report or testimony that you prepared.
15 Do you have it in front of you?

16 A I do.

17 Q And that exhibit describes the methodology you
18 used to evaluate the visual impact. Is that a
19 correct summary?

20 A Yes.

21 Q Now, in looking at Exhibit 17, it describes a
22 process, and you were examined on that process,
23 and the process includes a number of steps and
24 then an overall assessment. Correct?

1 A Correct.

2 Q Now, what I'm interested in is the steps. So in
3 evaluating a resource for the scenic value, do
4 you prepare a rating chart? Do you have
5 different factors that are rated?

6 A Yes. And if you look at the Visual Assessment
7 itself it describes the entire methodology, how
8 we rate different steps in the methodology, in
9 quite a bit of detail.

10 Q Well, I know it describes it, but what I'm
11 looking for are the actual ratings. Did you
12 provide any actual ratings?

13 A Yes. The ratings were provided in the
14 evaluation of the resources that rose to the
15 level of requiring that level of the evaluation.

16 Q All right. So if a resource was moderate/high,
17 you actually provided the underlying rating
18 chart?

19 A The rating chart, I think, I can't recall
20 whether they were provided for each individual
21 resource but, yeah, each resource you get a
22 score, and it's in the content of the Visual
23 Assessment.

24 Q But the concrete mattresses didn't rise to the

1 level that they would warrant a rating chart.

2 A Only because the concrete mattresses were part
3 of the overall evaluation of the effect of the
4 transmission line as a whole on Little Bay.

5 Q Right. But my question is is there a rating
6 chart that actually someone could go through and
7 say here are the ratings, and here's the way
8 these separate factors were rated and I disagree
9 or agree with the particular rating assigned.
10 Could I do that with the concrete mattresses?

11 A There was, no, because, again, the concrete
12 mattress evaluation was sort of absorbed within
13 the overall scenic quality rating for Little Bay
14 resource.

15 Q Well, wait a minute. My understanding is when
16 you did Exhibit 17 where you discussed your
17 rating methodology, concrete mattresses weren't
18 a part of that evaluation.

19 A Correct. And yet when the concrete mattress
20 evaluation was necessary, we did not see the
21 need to revise our rating to get to the point of
22 evaluating that specific element of the line.
23 But then we did, obviously, provide a narrative
24 to explain how we viewed it and how we came to

1 the conclusion that it would not result in an
2 unreasonable effect.

3 Q Well, my issue is this. We may agree or
4 disagree with your particular rating, but all we
5 have right now to go on is a summary rating that
6 says moderate, correct?

7 A Well, that was the summary rating that we
8 arrived at for Little Bay, and those ratings are
9 available in the report.

10 Q So the rating for moderate for Little Bay was
11 done in 2016 before you knew about the need for
12 concrete mattresses.

13 A Correct.

14 Q And that rating has, can you tell us what
15 factors are actually on the rating for Little
16 Bay?

17 A Well, I mean, again, it's the whole methodology
18 that you go through. So you have, you know,
19 it's quite a few pages here. If you want me to
20 walk through the whole thing.

21 Q I'm not interested in pages. What I was asking
22 specifically about was a chart. Do you put
23 numbers on a chart and then add up the numbers
24 and then determine a moderate or moderately high

1 based on a number, a numerical value? Do you
2 have a chart where you actually --

3 A Yes.

4 Q -- rate things?

5 A Yes, it's in the report.

6 Q Okay. So what would be the factors on the chart
7 that would be rated and what numbers assigned to
8 those? Is it numerical?

9 A Yes.

10 Q All right. So can you list the factors?

11 A Essentially you want me to walk through my whole
12 methodology because there are a number of
13 factors and a number of steps along the way that
14 gets us to the final determination. Let me, I
15 have a chart here that I think -- hopefully,
16 it's, I've got it here. Bear with me here for a
17 moment. Well, let me go through -- okay.

18 Q Is it in Exhibit 17?

19 A So first we start with the inventory, and we
20 identify all the scenic resources in the area,
21 whether they are visible for not. That's our
22 first step.

23 And in that step, we also determine if
24 there is visibility, you know, how many

1 structures might be potentially visible. So
2 that's the first step, and that begins on page
3 45 or 44 of the methodology. Did you read the
4 assessment? Are you familiar with this?

5 Q I don't actually have the methodology in front
6 of me which is why I'm asking you the question.

7 A Okay. I will walk through it then. Do we have
8 time for that? I guess we do. Okay.

9 So if we start with, the first is
10 evaluating all the scenic resources in the area
11 for visibility, and then if there is no Project
12 visibility, we'll often, and there's a question,
13 we'll often test that either on-site or using a
14 3-D analyst to be sure. And if there is
15 visibility, we would identify the distance to
16 the Project and the number of structures that
17 are potentially visible.

18 Q So let me stop you there on the visibility
19 issue.

20 A Okay.

21 Q So in Exhibit 17, you stated on page 14 of that
22 exhibit that the location of the transmission
23 line within the existing utility corridor is a
24 key minimization measure. Is that correct?

1 A Yes.

2 Q All right. So would that relate to the
3 visibility issue?

4 A No.

5 Q What does that relate to? Why did you make that
6 statement?

7 A Because one of the rules requires us to address
8 to what extent has the Applicant avoided,
9 minimized or mitigated visual effects.

10 Q Okay. My question focuses specifically on the
11 crossing of Little Bay. Does that statement
12 apply to use of the existing utility corridor to
13 cross Little Bay?

14 A Certainly.

15 Q So at that point, you believed that the existing
16 utility corridor, the use of the existing
17 utility corridor was a key minimization measure.
18 Can you explain how that would be a key
19 minimization measure?

20 A Sure. So I've been involved in a number of
21 transmission projects in Vermont and in Maine as
22 I identified earlier. This is, obviously, this
23 one I'm involved in now. And in fact, I would
24 just parenthetically insert that in Vermont the

1 Public Utilities Commission highlights the
2 notion of co-location as an inherent and
3 desirable mitigation --

4 Q Well, actually, my question, excuse me, my
5 question was not about Vermont and how what the
6 Vermont --

7 A I'm getting to it.

8 Q -- regulators did. My question is really a very
9 specific factual question that involves the
10 visual impact, and you stated that the use of
11 the existing utility corridor is a key
12 minimization measure for visual impact for this
13 Project. And I'm referring specifically to the
14 crossing of Little Bay. So can you factually
15 explain why you believe that's a key
16 minimization measure for the crossing of Little
17 Bay?

18 A The easiest way I can explain it is imagine if
19 we went to create an entirely new crossing and
20 entirely new corridor. That would be a huge
21 challenge. It would create new impacts that
22 wouldn't ever exist, and that is not a desirable
23 option, I would imagine, for any utility unless
24 it was absolutely necessary.

1 Q Are you referring to visual impacts or
2 environmental impacts?

3 A Both. Certainly.

4 Q Are you an expert in environmental impacts and
5 prepared to testify on environmental impacts of
6 a different corridor?

7 A I think it's common sense to say that there
8 would be environmental impacts if there was a
9 new corridor by sure of just clearing trees for
10 the corridor. That would be an environmental
11 impact.

12 Q Well, we're talking about the crossing of Little
13 Bay, and apparently there aren't very many trees
14 located in Little Bay, are there?

15 A Well, I don't look at the crossing in isolation
16 from the corridor itself. I would agree there
17 aren't any trees in Little Bay, but you do
18 consider either side where the line comes back
19 up from the underground condition. So I look at
20 it as a, you know, not isolated, but when I make
21 that statement, it relates to the entire
22 corridor and the entire Project for the most
23 part.

24 Q Well, if I told you because you did testify as

1 to environmental issues that the Environmental
2 Panel actually thought that there might be
3 greater environmental consequences from the
4 removal of the existing cable in the existing
5 corridor versus a new line, would that affect
6 your opinion?

7 MR. NEEDLEMAN: Objection. It's beyond the
8 scope of his testimony and he didn't testify
9 about environmental issues. He spoke very
10 broadly about them.

11 MS. LUDTKE: Madam Chairman, I asked him
12 specifically if his answer related to
13 environmental issues and he said it did, and he
14 spoke generally about environmental issues, and
15 I'm now determining what knowledge he actually
16 has on environmental issues to determine how
17 credible his testimony is in that area.

18 PRESIDING OFFICER WEATHERSBY: I'm going to
19 sustain the objection. He doesn't really have a
20 lot of environmental testimony. He said it was
21 based on common sense. So if you want to stick
22 to his testimony, it's on visual impacts.

23 MS. LUDTKE: Well, he did testify that he
24 was making an environmental conclusion.

1 PRESIDING OFFICER WEATHERSBY: Elicited by
2 you. I think that we can -- he's here for
3 visual impacts.

4 MS. LUDTKE: Well, that's what I'm trying
5 to focus on, the visual impact, but he's not
6 being responsive.

7 PRESIDING OFFICER WEATHERSBY: The
8 objection is sustained. Please move on.

9 BY MS. LUDTKE:

10 Q All right. Let me ask you specifically on the
11 visual impact, and I'm talking about the
12 crossing of Little Bay, and you have testified
13 that you believe that the use of the existing
14 corridor is a key minimization factor. Is that
15 correct?

16 A Correct.

17 Q Okay. So let's say, hypothetically, a different
18 crossing were used for putting the underground
19 cable across Little Bay, and the crossing that
20 was used to place the underground cable in did
21 not require concrete mattresses. Which in your
22 opinion would have a greater visual impact on
23 Little Bay?

24 A Forgive me. I do not want to speculate on a

1 hypothetical.

2 Q Well, I'm asking you a hypothetical question,
3 and it's a fair and legitimate question.

4 A I think it would depend on the location and
5 where those concrete mattresses were placed and
6 how visible they were. So I can't comment
7 effectively or substantively on that type of a
8 hypothetical question.

9 Q Well, let me ask you the question this way. If
10 a crossing could be effected without concrete
11 mattresses versus a crossing with concrete
12 mattresses, which in your opinion would have a
13 lesser visual impact?

14 A It depends on what it would look like at the
15 shoreline and where it interconnected with the
16 transmission before I could give you an
17 appropriate answer.

18 Q Now, I noticed in your testimony that you used
19 the term "we," and I would like to know whether
20 anyone else was involved in these assessments
21 along with you? You assigned values to certain
22 factors to make a judgment as to whether it was
23 moderate, moderate/high, high sensitivity. Did
24 you do it independently or were there other

1 people involved?

2 A At the time of that we began this project we
3 had, I was, our firm had 8 or 9 employees. Of
4 them, for the bulk of this Project we had
5 anywhere from three to four staff members aside
6 from myself working on this Project. We review
7 each of these resources internally as a team and
8 work in that manner, and ultimately, I make the
9 final decision and provide that information and
10 decision in the Visual Assessment that we
11 submitted.

12 Q How many of the people in the firm that you
13 worked with to reach these ratings that form the
14 basis for your conclusion that the resource was,
15 had a moderate or moderate/high or high
16 sensitivity had actually conducted site visits,
17 and if so, how many site visits had they
18 conducted?

19 A I would say there were four people in the firm
20 including myself that conducted site visits.
21 I've honestly lost count of the number of times,
22 but I would say we have been down in this area
23 on numerous occasions, you know, easily several
24 dozen independent trips.

1 Q Now, I notice when you were responding to
2 Attorney Patch's questions on your own site
3 visits, your report said that you conducted two
4 site visits and gave the date of June 29th,
5 2017, for one of those visits. You testified
6 then you did a visit on August 2017. But then
7 later on you testified that some of the pictures
8 were taken in 2018. Was that another site visit
9 that you conducted?

10 A No. That was from the August 2018 site visit.

11 Q Well, I don't have a, oh, there was, that was an
12 August 2018 -- that was done after the report
13 was provided?

14 A Yes.

15 Q Okay. So you only did one site visit before the
16 report?

17 A One site visit to where? Little Bay?

18 Q Well, I'm very confused because your report that
19 was issued on July 9th, 2018 -- I think it's
20 July 29th, 2018 --

21 A I'm sorry. Forgive me. That's my mistake. The
22 site visit was 2017. Forgive me. That's right.

23 Q All right. And you testified that pictures were
24 done in 2018. That was incorrect. The pictures

1 were done in 2000 --

2 A Actually, I think I confused that with the fact
3 that we also conducted site visits, I personally
4 conducted at least two site visits in 2018 from
5 which I took pictures. You know, for example,
6 came back down to evaluate Nimble Hill a second
7 time, and, yeah, and obviously came down for the
8 site visit with the SEC this past summer. So
9 made a number of site visits in 2018. And
10 previous to that, members of my staff made site
11 visits before 2017 as well.

12 Q So the two site visits that relate to the
13 concrete mattress evaluation were done on June
14 29th, 2017, and in August, 2017. Do you have a
15 date for that site visit?

16 A I'd have to look at my records.

17 Q And I recall when you answered Attorney Patch's
18 questions you said you were by yourself during
19 those site visits. Were those site visits
20 conducted just by yourself both times?

21 A Yes.

22 Q So members of your staff did not come down to do
23 the site visits to assess the visual impact of
24 the concrete mattresses?

1 A Two members of my staff had been to Little Bay
2 prior to my coming to Little Bay. I came to
3 Little Bay specifically to do the visual
4 simulation. We already had analysis data and
5 photographs and simulations conducted of Little
6 Bay prior to that. I came in August, a year
7 ago, specifically to develop the data that I
8 needed to do the visual simulation, and of
9 course, to take another look at the conditions.

10 Q Well, up to that time, in June though, you
11 weren't aware that the concrete mattresses were
12 going to be used so the people who had come to
13 do the site visit before that date were not even
14 aware of the existence of the concrete
15 mattresses; isn't that correct?

16 A That is correct. But that doesn't mean that in
17 a subsequent analysis they weren't familiar with
18 the site and couldn't through this visual
19 simulation process and their knowledge of the
20 site in the flesh that they couldn't provide,
21 you know, useful and targeted analysis.

22 Q So when you consulted with the other members of
23 your staff it was just basically, based on their
24 memory of what the site looked like without

1 actually focusing on any issues concerning the
2 concrete mattresses?

3 A No, they focused, we all focused on the issues
4 with regard to the concrete mattress; where it
5 was located, what the bottom contours looked
6 like, what was the nature of the shoreline, what
7 were some -- we consulted about, for example,
8 the broad view of the shorelines that you see
9 analyzed in one of the exhibits that are in this
10 Supplemental Testimony.

11 Q My question really focuses on, though, when
12 they're making their visual assessments, their
13 eyes are making visual assessments, they weren't
14 making the visual assessments at the time they
15 were in Little Bay to consider what the impact
16 of the visual impact would be on the concrete
17 mattresses because at the time they didn't know
18 that they would be there.

19 A Well, again, as I said, that does not matter.
20 As long as they've been to the site, they're
21 familiar with the conditions, they understand
22 the shoreline, they've been up close and
23 personal to it as they were, two of my staff
24 members, they have enough information as I did

1 with the information we received about the
2 concrete mattresses with the visual simulation
3 that we created to be able to assess, I think
4 effectively, the visual effect.

5 I mean, we don't do our analysis in the
6 field in total. I mean, that's one data point
7 that we rely on. We use photographs, we use
8 maps, we use simulations, we use, you know,
9 engineering data, things of that nature to come
10 to our conclusions.

11 Q So that's your testimony. Even though they
12 didn't know at the time the concrete mattresses
13 would be there, it doesn't make any difference.

14 A I didn't say that. That's not my testimony.

15 Q Well, I thought you said it doesn't matter.

16 A What I said is that it doesn't matter that they
17 were unaware of the concrete mattress proposal
18 because they had enough information and enough
19 experience in the site subsequent to their site
20 visits to make an informed analysis.

21 Q Now, on page 14 of Exhibit 17, you talk about
22 the existing Cable House in the corridor.

23 A Yes.

24 Q And you refer to that as -- let me read to you

1 what it says. On page 14. There is already an
2 established expectation related to the
3 infrastructure, and this new element is not an
4 substantive change nor would it be a surprise to
5 see another small-scale element that is part of
6 it.

7 A Right.

8 Q Would that apply to the concrete mattresses that
9 because the shoreline has already been impacted
10 that it really doesn't matter that the concrete
11 mattresses are now placed in front of it because
12 there's an expectation that you will see things
13 like that because the Cable House is there; is
14 that your testimony?

15 A I don't believe I said it doesn't really matter.
16 I think what I said was that given the existing
17 elements along the shoreline that are visible
18 and part of the experience, that the addition of
19 the concrete mattress installation again would
20 not rise to an unreasonable effect or an
21 overwhelmingly visible or impacting change to
22 that visual experience.

23 Q What if the Cable House weren't there? Would
24 that affect your opinion at all?

1 A No. Again, the Cable House is only one of a
2 number of elements which I pointed out in the
3 previous testimony here that you take into
4 account when you look at the visual character
5 and the effect of a new element in that visual
6 landscape. And so the statement is the
7 condition of the shoreline as it exists today
8 visually is such of a developed shoreline, and
9 that's very clear, I think, from the photos
10 provided, and that factors certainly into our
11 analysis.

12 Q Well, let me ask you a little bit about
13 developed shorelines because that seems to be a
14 major feature of your testimony. Are you aware
15 of any lake, large lake or water body in New
16 Hampshire that does not have a developed
17 shoreline?

18 A I have to think. In my travels, sure, I mean
19 there are a number of, well, I guess it defines
20 how you define "large," but there are portions
21 of the Connecticut Lakes that are not, portions
22 that are not developed. There are numerous
23 lakes that have areas that aren't developed and
24 that have been conserved, but I can't speak to

1 them specifically.

2 Q Well, have you worked on a Project involving a
3 water body that would rise to the level of
4 scenic?

5 A Oh, sure. I mean, there are many highly scenic
6 lakes and ponds, you know, in Northern New
7 England that are much less developed or have
8 only a very small portion of the lake that is
9 developed in this manner with these kinds of
10 homes and docks. Lake Willoughby in Vermont is
11 one. Just in very small section of the northern
12 end is developed. The rest of it is pretty much
13 undeveloped and owned by the AMC and the State
14 of Vermont and couple of conservation
15 organizations. There's a section, for example,
16 of Lake Champlain, the southern end, it's called
17 South Lake, where I boat and paddle frequently
18 where I would say about two thirds of that lake
19 has no development whatsoever. It's conserved
20 by the Nature Conservancy and has hills and
21 mountains rising right from it that are quite
22 spectacular.

23 Q So in order to rise beyond the level of
24 moderate, a water body would basically, my

1 understanding from what you've just testified,
2 would have to be under some type of conservation
3 easement or some type of protection?

4 A Not necessarily. No. I mean, again, if you
5 look at the methodology, there are a number of
6 factors which we weigh and evaluate to see
7 whether it yields a low or moderate or high
8 visual effect in that particular step. All
9 those factor in.

10 Q So in assigning a moderate level to Little Bay
11 and Great Bay, it's really a focus on the
12 existing level of development on that area and
13 not on the environmental or ecological
14 significance or its designation as a national
15 treasure? How does that factor in when there is
16 development, but it's been designated as a
17 national treasure?

18 A It's certainly a consideration, but as you said,
19 you know, the ecological value and the
20 environmental value, our charge is to look at
21 the visual value.

22 Q Well, how would the designation as a national
23 treasure, unique environmental resource, affect
24 the scenic designation when there is existing

1 development? My understanding is some of the
2 existing development goes back centuries on
3 those water bodies.

4 A Again, it depends on the landscape and the
5 scenic quality of the landscape. I mean, you
6 can designate a national treasure, obviously, I
7 think as you pointed out for the ecological
8 values. When I researched Great Bay, I was
9 struck by the fact that, for example, in one
10 entry in a website on Trail Finder they talk
11 about the trail in Great Bay, to your point, but
12 they never mention scenic values. They talk
13 about the wildlife, they talk about the ecology,
14 as you say, but there's no mention of the views
15 or the scenic values of being preeminent in that
16 designation or in that hiking experience, and
17 those are the things we look at to see how that
18 resource is valued and whether the visual and
19 scenic quality is of, you know, significance to
20 the users. I wouldn't say that the scenic
21 quality is not a factor, but clearly Great Bay
22 is valued because of its ecology, because of its
23 wildlife, and not necessarily totally elevated
24 for its high visual quality.

1 Q Well, did you talk to any of the tour boat
2 companies or any of the other businesses that
3 use Great Bay in that way to find out whether
4 the reason for their use was scenic value?

5 A We looked at websites, we looked at whatever
6 information, documents, that we could find about
7 Great Bay. I didn't, no, we don't necessarily
8 go out and interview people. That's anecdotal
9 and not necessarily a data point that we can,
10 you know, rely on or accommodate. It certainly
11 is informative, but it doesn't necessarily weigh
12 into the analysis unless that has been
13 memorialized in some form.

14 Q Well, the concern I have about your analysis is
15 that it appears that the development along the
16 shore front is almost determinative in your
17 analysis of the categorization, and once the
18 categorization is determined, then it doesn't
19 qualify as a scenic value and then justifies
20 more intense use of the resource. So it seems
21 to sort of create a downward spiral of
22 development in this area. How do you respond to
23 that?

24 MR. NEEDLEMAN: Objection. The witness has

1 already answered this question several times.

2 MS. LUDTKE: I don't think he has answered
3 the question which is why I asked it.

4 PRESIDING OFFICER WEATHERSBY: I'm going to
5 overrule the objection, and I'm going to ask you
6 to restate the question a little bit more
7 succinctly as to -- you stated your position and
8 asked him how would he respond. So if you
9 could, the question inherent in that, try to
10 pick that out and ask it again.

11 MS. LUDTKE: Thank you.

12 BY MS. LUDTKE:

13 Q Mr. Raphael, my question is this, that your
14 categorization system whereby water bodies are
15 categorized as moderate based upon shore front
16 development could appear or could lead to a
17 downward spiral of development if that precludes
18 them from being also classified as scenic, and
19 what I'd like is your response to that.

20 A That identifying, well, let me respond to that
21 by saying here's how we do it. You know, we
22 look, first of all, we establish scenic quality
23 and we consider whether the resource has a low
24 scenic quality, a moderate scenic quality or a

1 high scenic quality. Let's take Great Bay which
2 I think we concluded was moderate to high.
3 Moderate resource has a combination of some
4 outstanding features and some that are fairly
5 common to the physiographic region, and then the
6 next step that we go to for Great Bay is to
7 develop the visual effect, and the visual effect
8 is not determined solely on whether a site is
9 developed or not developed. It's determined on
10 scale and spacial precedence. Is the Project a
11 dominant element in the view. Prominence, does
12 the Project stand out and draw attention.
13 Three, compatibility, is the Project consistent
14 or inconsistent with the built or natural
15 elements currently visible.

16 So in that regard I would say that in
17 Little Bay, not Great Bay because that's not
18 where the concrete mattresses are located, the
19 Project is somewhat consistent with the fact
20 that, A, the crossing and the infrastructure
21 leading to and from the crossing is already
22 present. B, there are many objects in
23 development along the shoreline that say it's
24 not pristine. And C, the scale of the Project

1 was such that it also allowed the proposal to be
2 compatible.

3 So we use several steps, and it's not just
4 whether something is developed or undeveloped.
5 There can be beautiful developed areas as well
6 as not.

7 Q All right. What I'd like to do is move on to
8 another line of questioning.

9 In your original report, you did not
10 address concrete mattresses, we've established
11 that, correct?

12 A Correct.

13 Q And I quote, have a quote from Exhibit 142
14 Attachment C, page 1. And you state that this
15 proposed component of the project was not
16 included in the initial analysis because use of
17 the concrete mattresses had not yet been
18 determined to be an essential element of the
19 Project; is that correct?

20 A That's correct.

21 Q Now, my question is did you review the initial
22 Permit Application as part of your work in
23 preparing a Visual Impact Assessment?

24 A We reviewed, I believe so. And I believe we,

1 you know, reviewed the engineering drawings and
2 the environmental drawings for the project in
3 its entirety.

4 Q And do you know whether the concrete mattresses
5 were contained in the 2016 Permit Application?

6 A I do not know.

7 Q And did you review any material in the 2016
8 Permit Application that related to the concrete
9 mattresses?

10 A I may have subsequently. When the need to
11 conduct an evaluation of the concrete mattress
12 became known.

13 Q Well, what I'm trying to determine is who gave
14 you the scope of the project that you were
15 responsible for? Did Eversource tell you we
16 want you to evaluate these 15 things or did you
17 determine what needed to be evaluated based on
18 your review of the Application?

19 A We understood what the charge for the evaluation
20 was. Again, forgive me. I don't, you know, I
21 think my memory doesn't serve me well, but
22 clearly at a certain point in the process it
23 became evident that we needed to do this
24 evaluation and Eversource brought that to my

1 attention.

2 Q And when did Eversource bring this to your
3 attention?

4 A I don't recall the exact date.

5 Q Was it before you learned of this during the
6 Technical Session?

7 A I believe so. I can't remember though. I think
8 we knew about it. We did not necessarily
9 proceed at that time with an evaluation until it
10 was clear that we needed to.

11 Q So when you first learned of it, it wasn't clear
12 to you that you needed to make it part of your
13 evaluation?

14 A Again, forgive me. I don't recall that sequence
15 so I can't speak to that.

16 Q Now, does your opinion about the lack of visual
17 impact of the concrete mattresses depend on the
18 number of concrete mattresses that will be
19 placed in Little Bay?

20 A Well, I mean, my conclusion is based on what I
21 reviewed in terms of the sets of plans that were
22 provided.

23 Q Well, what did you specifically review? What
24 plans did you review for the concrete

1 mattresses?

2 A I reviewed everything from engineering drawings
3 to two different plan views of the proposed
4 installation and other information about the
5 nature and design of concrete mattresses.

6 Q And when did you conduct that review?

7 A You know, leading up to the submission of a
8 Supplemental Testimony submission, probably half
9 a year prior during that process.

10 Q Okay. So your Supplemental submission came in
11 on July 29th, 2018, and you conducted a review
12 of the engineering during six months before
13 that?

14 A No, I guess I misspoke, forgive me, because
15 obviously I was on a site visit a year before
16 that. So I mean, again, my memory is not the
17 best at this point. So, you know we reviewed so
18 many different things with this project. It's
19 not an excuse, it's just a fact. I believe we
20 started in, obviously, some time before my
21 August 2017 site visit. Probably several months
22 before that.

23 Q Was it before your June 29th, 2017, site visit?

24 A Yes, I think we may have been in the process

1 perhaps.

2 Q Now, when you reviewed the plans in the
3 engineering drawings, et cetera, from
4 Eversource, how many mattresses based on those
5 plans did you understand would be placed in
6 Little Bay?

7 A Well, each of the plans, all of the plans showed
8 that there are three sort of lines of mattresses
9 that are proposed for installation on each side.

10 Q Okay. What are the dimensions of those lines?

11 A I think each individual section, I have to go
12 look at my notes, are 8, I think 8 by 24 feet in
13 length or the length varies. They're typically
14 8 feet wide and, again, the length varies, and
15 the individual segments also vary depending on
16 the actual product used. So I would look at,
17 obviously, the width of the mattresses and then
18 the extent of their installation into the tidal
19 flats.

20 Q And how high are they?

21 A They're nine inches thick, I believe.

22 Q Will they overlap one another so that they will
23 actually be greater than nine inches in height?

24 A In one -- yes. They may overlap each other.

1 Q So what would be the maximum height of the
2 mattresses?

3 A At the overlap point, I guess if they were nine
4 inches thick, it could be 18 inches.

5 Q How many?

6 A 18 inches.

7 Q Did you conduct your visual impact review based
8 upon an 18-inch depth in certain locations?

9 A When I became aware of that, I went back and
10 sort of revisited, you know, how we looked at
11 these and what that would mean, and it did not
12 change my, our findings and conclusions. You
13 know, again, as I said, we're looking at the
14 installation as a whole.

15 Q And I think in your report you said that the, on
16 page 1, that, and this was a report prepared in
17 July 2018, the number and location of the
18 concrete mattresses had not yet been determined.
19 That was in Exhibit 142, page 1?

20 A Yes.

21 Q Is that your understanding?

22 A Yes.

23 Q And how would it have to change for you to have
24 a changed opinion?

1 A What the threshold would be? I don't know. It
2 would depend on the proposal. Again, I don't
3 want to speculate. I am charged with reviewing
4 what's before me so I can't make that conclusion
5 right now. It would depend on what the change
6 would look like.

7 Q In your report you state that the information
8 may change slightly, and what I'm trying to
9 understand is what you understand to be a,
10 quote, unquote, "slight change."

11 A Okay. So when you asked me that question, I had
12 the image that you were talking about maybe what
13 if it was a hundred feet wide or 200 feet deep
14 so I had no sense of what you were asking in
15 that regard. Again, the width doesn't change of
16 the individual mattresses. That hasn't altered.
17 It would be the extent to which the length
18 changes. And I spent a lot of time looking at
19 this and as the length changes, the mattresses
20 get further out and, you know, in some instances
21 a little deeper down, put generally the steep
22 point is at the outset of the mattress
23 installation where they're going to be most
24 visible. They very quickly become flat for the

1 most part without much of an angle to them, and
2 that flat, if you look at it from the water,
3 it's really impossible almost with the naked
4 high even if you're up close and personal and on
5 the right angle to see how far or how short it
6 is because it's foreshortened in the view that
7 you would have when you're immediately opposite
8 the installation.

9 So, you know, extending them further out on
10 the flat, that portion is probably going to be
11 less visible regardless of how long, and if
12 you're talking, you know, another 50 feet, that
13 does not substantively change again the
14 evaluation given the size and scale of the
15 installation relative to the overall size and
16 scale of the resource.

17 Q So if on the Newington side, the mattresses
18 extended out 264 feet, that wouldn't affect your
19 opinion?

20 A Yeah. Because, again, I did look at the extent
21 of the mattress, and one thing doesn't change,
22 and that's the mean low lower water, and so the
23 mattresses would be, any extension to that
24 length would have that portion of the mattress

1 totally underwater most of the time.

2 Q Well, there would be a difference in visual
3 effect from the shore for an extension of 50
4 feet, wouldn't there?

5 A Mostly on the, I would believe on the Durham
6 side probably.

7 Q So that would go out over 150 feet. That would
8 change the visual impact on the shore, wouldn't
9 it?

10 A It might slightly potentially increase, but
11 again, as I explained a moment ago, the way in
12 which the expansion would occur out towards the
13 water would be on the flat and very, very hard
14 to see. Very, very hard to see.

15 Q Well, you mentioned tides in your recent answer,
16 and let me ask you some questions about tides in
17 Little Bay. And you stated that you were
18 familiar with coastal, use of coastal waters and
19 you've sailed and lived on the coast for a
20 number of years. You're aware that the level of
21 the tide at low tide can vary considerably,
22 aren't you?

23 A Sure.

24 Q And did you consult the tide charts during your

1 visit on June 29th, 2017, to Little Bay to
2 determine what low tide was in relationship to
3 the lowest or very low tide? How low was the
4 tide when you were there?

5 A I don't know the actual elevation, water level.
6 I mean, I consulted the tide charts and checked
7 with somebody local to gauge the timing that
8 day. I wasn't focused on water levels, and,
9 again, you know, the analysis incorporates the
10 notion of the maximum extent of exposure at low,
11 lowest tides.

12 Q Well, you've never seen that though, have you?

13 A I used the numbers provided in the drawings and
14 the graphic representation of where that tide
15 level would be to understand the extent of
16 visibility of the mattresses.

17 Q All right. Let me ask you this. What time were
18 you there on June 29th, 2017?

19 A I was there all day from about until 11 o'clock
20 until 4 o'clock, four or 5 o'clock.

21 Q Do you know what time low tide occurred on that
22 day?

23 A Low tide was, I think, right around noon.

24 Q All right. So then were there at noon, and it

1 was low tide, and you're not familiar with how
2 low that tide was in relationship to the lowest
3 tide that could occur in that area?

4 A No. I already said that. I'm not. I was not.
5 I didn't calculate or know what that point was.

6 Q Now, if I represented to you that there are low
7 tides not at an infrequent basis in that area
8 that are well over six inches or more below the
9 low tide that day, would that change your
10 opinion at all?

11 A No.

12 Q And you left at 4 o'clock which would be before
13 high tide, correct?

14 A Correct. I take your word for it. I don't know
15 when high tide was at that time.

16 Q Well, you know what tidal cycles are, and that's
17 five hours so that would be relatively short
18 tidal cycle, wouldn't it?

19 A Well, again, yeah, probably, yes. I can tell
20 you that when I left the water level was shortly
21 high enough so I understood the entire
22 installation would be underwater.

23 Q And the pictures you took were not taken that
24 day, were they?

1 A Yes, they were.

2 Q Those pictures were taken that day?

3 A For the simulation, yes.

4 Q Oh, I thought they were taken in August. I
5 thought that was your testimony you took them in
6 August.

7 A For the simulation.

8 Q Did you take your pictures in June or in August?

9 A There were pictures taken in June and in August.
10 The pictures taken in August were the ones we
11 used for the simulation.

12 Q Well, isn't it important in doing a
13 photosimulation to understand what the tide data
14 is for that day and the time when the pictures
15 were taken so you could actually assess what the
16 water levels would look like?

17 A Well, we know what time of day the pictures were
18 taken.

19 Q Do we?

20 A Yeah. I mean, I think I recorded it. I know I
21 certainly can go back and check my numbers. But
22 again, as I said repeatedly, part of the site
23 visit was to understand the shoreline
24 conditions, to set up, I mean, you know, I think

1 that we tried to represent a reasonably worst
2 case situation in terms of the visual simulation
3 because I got out there very soon after low
4 tide. Again, forgive me, I did not know that it
5 was the lowest low tide. Maybe I should have
6 looked at that. But again, we did our best to
7 assess and understand the visual impact with all
8 the data we had available, and I feel confident
9 that we had sufficient data, sufficient
10 understanding, and sufficient experience on-site
11 to accurately represent both in the simulation
12 and in our analysis the potential visual effect
13 of this Project.

14 MS. LUDTKE: Madam Chair, I'd like to make
15 a Data Request for the time when the photos were
16 taken and the date and time that the photos on
17 the photosimulation were taken because I think
18 it's very critical in terms of understanding
19 what they represent to understand the tide on
20 that day, and the date and time are not part of
21 the materials provided to the best of my
22 knowledge.

23 PRESIDING OFFICER WEATHERSBY: Mr.
24 Needleman?

1 MR. NEEDLEMAN: They are part of the
2 materials. There's right in the information on
3 the simulation information. I'm looking at it
4 right now. It's PDF page 26 of 35.

5 PRESIDING OFFICER WEATHERSBY: Page 28 of
6 the Visual Assessment?

7 MR. NEEDLEMAN: It's page 26 of 35 of the
8 Supplemental Prefiled Testimony. It has the
9 simulation information which includes a great
10 deal of detail about the simulation.

11 MS. LUDTKE: I apparently don't have that.

12 PRESIDING OFFICER WEATHERSBY: Data Request
13 is denied.

14 BY MS. LUDTKE:

15 Q Mr. Raphael, June 29th, 2017, what day of the
16 week was that?

17 A I don't recall.

18 Q Was it a weekday or a weekend?

19 A I don't recall.

20 Q And you testified that you observed the boating
21 traffic on that day and that you made
22 observations that the concrete mattresses would
23 not interfere in any way with boating use; is
24 that correct?

1 A Yes.

2 Q And are you confident based upon your
3 observations for, let's say, approximately four
4 plus hours on a day that may not be a weekend
5 day that you can make a conclusion regarding the
6 impact of the concrete mattresses on boating
7 traffic?

8 A You have to put yourself in the position of the
9 user of the resource and regardless of whether
10 there are 20 boats or two boats what the users'
11 response would be to seeing the concrete
12 mattresses. So I think that's a, you know,
13 obviously I, you know, anyone doing a Project
14 like this can't sit out there, you know, for
15 weekend after weekend to assess it. We have to
16 base our assumptions on what we see, what we
17 experience and then whatever knowledge we glean.
18 Understood that there is a good deal of boat
19 traffic in Little Bay. From every opportunity
20 I've had to see that boat traffic, there are two
21 basically, maybe three types of uses that I
22 observed, and those are factored into whether or
23 not -- and then the users' take on a visual
24 change of this sort is factored in, and that's

1 how we base our conclusions with regard to
2 viewer effect.

3 Q Well, do you know what the water level
4 difference is in the Little Bay area between a
5 low tide and a high tide generally?

6 A I'd have to go back and look at the map. I
7 don't memorize those numbers. Sorry.

8 Q Well, would the difference in your opinion for
9 the boating traffic between high tide and low
10 tide be sufficient to allow boats to use an area
11 beyond the channel? You're talking about taking
12 the photos from a half mile away. How much
13 water would boats have in that area? And I
14 think when Attorney Patch asked you this
15 question you said it depends on the draft of the
16 boat. Fine. Kayaks don't draft very much, do
17 they?

18 A No.

19 Q And a Boston Whaler generally wouldn't have much
20 of a draft, would it?

21 A No, but they have a motor.

22 Q I understand, but the motor wouldn't draft five
23 or six feet of water on a Boston Whaler, would
24 it?

1 A Maybe three, I mean, you know, depends on the
2 model of the Whaler.

3 Q All right. What about a 14-foot Whaler with a
4 60 horse?

5 A Yeah. I guess, yeah. I mean, I don't know
6 exactly what the draft would be.

7 Q What about small sailboats? They generally
8 wouldn't draft much water, would they?

9 MS. LUDTKE: He has already testified he
10 sails and uses watercraft.

11 MR. NEEDLEMAN: I'm going to still object
12 to the relevance of this line of questioning at
13 this point as it relates to the testimony he
14 submitted and the conclusions he reached.

15 MS. LUDTKE: Madam Chair, he made a
16 conclusion and expressed an opinion that the
17 concrete mattresses would not interfere with
18 boat traffic, and when Attorney Patch asked him
19 about that and asked him about where boats would
20 be using or where boats would use the area, he
21 said it depends on the draft of the boat. That
22 was his answer. And I'm trying to determine
23 whether boats would use an area that's closer
24 than a half mile to the Durham shore on a high

1 tide.

2 PRESIDING OFFICER WEATHERSBY: I think if
3 you asked that question that you just said -- so
4 I sustain the objection. Rephrase your question
5 to that, what you just said, and remember this
6 is a visual expert. He did make that statement,
7 but I wouldn't go too far with this because you
8 may have the wrong expert.

9 BY MS. LUDTKE:

10 Q Mr. Raphael, you're familiar with boating
11 activities. I think you testified to that.

12 A Yes.

13 Q And isn't it a fact that there are a number of
14 small boats that could easily access an area
15 with five or six feet of water in it?

16 A Sure. Yes.

17 Q And do you know whether the depth of the water
18 at high tide would be five or six feet in the
19 tidal flat area that you referred to?

20 A I believe so. Could be as high as that.

21 Q Thank you. Now, going back to Exhibit 17, you
22 referred to two primary techniques of analysis;
23 one being a viewshed analysis and the other
24 photosimulation. Is that correct?

1 A Those are two of several elements in the visual
2 analysis.

3 Q And the viewshed analysis requires the
4 completion of a digital elevation model?

5 A You mean a -- well, yeah.

6 Q I think you referred to it as a DEM?

7 A Yeah. We rely on the DEM to set the contours
8 and that's how the software determines
9 visibility.

10 Q And did you do a DEM for the concrete
11 mattresses?

12 A No. Very hard to detect at that scale. It
13 would not come out in a GIS because there's a
14 margin of error and coarseness to, you know, GIS
15 viewshed analysis map on a, you know, on a grid
16 basis and the concrete mattress would not, it
17 would be very, very hard to conduct a viewshed
18 map for something of that nature.

19 Q So that wasn't done with respect to the concrete
20 mattresses.

21 A Because it would be almost impossible to do
22 accurately. If not impossible.

23 Q And you testified that you did a couple of the
24 photosimulations, correct?

1 A I'm sorry? We did all the, my company did all
2 the photosimulations.

3 Q And those were from the Durham side, not the
4 Newington side.

5 A Correct.

6 Q And you didn't do any photosimulations of the
7 Newington side.

8 A We did not submit any photo simulations for the
9 Newington side.

10 Q Now, the photosimulations you did you explained
11 were done from the resource at issue which would
12 be Little Bay; is that correct?

13 A Yes.

14 Q And did you personally take the photos that were
15 the basis for the photosimulations from your
16 kayak?

17 A Yes.

18 Q And that would be a very low elevation, would it
19 not?

20 A Lower, yes. I mean, it would be typical of
21 somebody in a kayak or canoe, yes.

22 Q How far away were you from the area at the time
23 you took these photos?

24 A I'd have to go back and look at my numbers. I

1 was somewhat in from the channel. I mean, I
2 wouldn't want to use a number. I'd have to go
3 back and check. I could probably do that using
4 the coordinates.

5 Q More than a third of a mile?

6 A I don't think -- no, I think I was closer than
7 that. Definitely.

8 Q Now, I listened to your testimony and I looked
9 at your analysis of the visual impact of the
10 mattresses, and it appears to be based on a view
11 where you testified boats would be using the
12 channel which would be a half mile away from the
13 Durham side and approximately the same distance
14 from the Newington side; is that correct?

15 A I think my intent there, if I didn't say it, was
16 that the bulk of the traffic obviously when I've
17 been there had, was in the channel, back and
18 forth, back and forth. There were some fishing
19 boats. They tended to be out deeper, and a few
20 times I've experienced them, but I am aware that
21 there are paddlers and folks who probably come
22 close to shore.

23 Q And I believe when you answered a question asked
24 by Attorney Patch you emphasized that the

1 mattresses essentially lay, are laid flat in the
2 bed and are not elevated and that was a critical
3 component of your analysis; is that correct?

4 A Certainly part of it. Absolutely.

5 Q And your photosimulation of the mattresses, the
6 mattresses show as barely detectable, partially
7 because of the elevation and partially because
8 of the distance; is that correct?

9 A Could you please repeat the question? I'm
10 sorry. I didn't follow.

11 Q The photosimulations that you provided, it's
12 very difficult to detect the mattresses, and
13 that would be partially because of the elevation
14 of the mattresses, correct?

15 A No. I think it's primarily because of the size
16 and scale.

17 Q Okay. Size and the scale. So let's say
18 hypothetically that there were twice as many
19 mattresses in that area with the same elevation.
20 Would that affect your opinion?

21 A I'd have to look at it. And again, I don't know
22 what you mean by "twice as many." Width-wise?
23 Length-wise? I really do not like to -- I think
24 it's very difficult to answer hypothetical

1 questions --

2 Q All right.

3 A -- when it comes to visual analysis.

4 Q I'll be more specific.

5 A Thank you.

6 Q If there were twice as many width-wise. Instead
7 of three rows of mattresses, there were six rows
8 of mattresses, would that affect your opinion?

9 A I'd have to look at it. I wouldn't want to make
10 a conclusion off the cuff.

11 Q But visually it would not appear that six rows
12 of mattresses would show up to be looking much
13 different than three rows in your
14 photosimulation.

15 A From that distance and at that scale, probably
16 not.

17 Q So would that matter or not matter?

18 A In terms of what?

19 Q In terms of your opinion on whether it had any
20 visual impact on the scenic qualities.

21 A We would analyze it for what it is, and then we
22 would come to a conclusion as to what extent the
23 effect would be. Again, I don't want to
24 conjecture without having accurate information

1 and data with which to do that.

2 Q Well, that's what I'm concerned about. The
3 analysis. Because it seems that the standard --

4 PRESIDING OFFICER WEATHERSBY: Attorney
5 Ludtke. You're testifying.

6 MS. LUDTKE: Pardon?

7 PRESIDING OFFICER WEATHERSBY: You're
8 testifying. If you could change it to a
9 question, please.

10 MS. LUDTKE: It will be a question. But I
11 will change it.

12 BY MS. LUDTKE:

13 Q Is your standard for analysis what a boater can
14 see on the shore from the channel area which is
15 a half mile away? Is that the standard?

16 A No.

17 Q What is the standard?

18 A As I tried to explain to you, the standard
19 involves a number of steps to look at any
20 particular element, and so we looked at the
21 prominence, we looked at the scale, we looked at
22 whether it was compatible with what the
23 shoreline showed. Then we consider what the
24 user effect will be and, you know, based on

1 years of analyzing impacts to boaters,
2 fishermen, kayakers, on lakes and ponds, on
3 rivers and places around New England, have a
4 sense of what concerns people, what interests
5 people, what doesn't matter.

6 And there have been studies that show, for
7 example, that fishermen, scenic quality and
8 visual effect is secondary. That the primary
9 interest obviously is catching fish and being
10 out there and enjoying that sport. So we factor
11 in a number of considerations including our own
12 experience, distinct analysis and data points to
13 come to our conclusion.

14 Q Well, don't you think it would have been helpful
15 if you're factoring all these criteria in to be
16 very specific about how each factor is weighted
17 in terms of reaching the conclusion that it
18 doesn't have a visual impact?

19 MR. NEEDLEMAN: Objection. The witness has
20 already answered this question, and the report
21 actually goes into this in meticulous detail.

22 PRESIDING OFFICER WEATHERSBY: Sustained.

23 BY MS. LUDTKE:

24 Q Well, let me ask you this. In your report, you

1 describe the characteristics of the view as
2 stating the typical viewing distances at low
3 tide will reduce the prominence and presence of
4 the concrete mattresses. And what I'd like to
5 find out from you is what are the typical
6 viewing distances. What did you consider the
7 typical viewing distances?

8 A Well, I mean, I think that the, you know, I
9 based it on being from a, probably a centerline
10 of the primary channel outward from that. So I
11 looked at it from the channel, and as I moved
12 closer, and you know, that's what we relied on
13 because, again, on the Durham side, the flats
14 and the navigable water at low tide is very,
15 very far out from the shore.

16 Q Well, what I'm actually trying to get at is what
17 you felt was the typical viewing distance. What
18 is the typical viewing distance in your opinion.
19 You use the term typical, and you describe
20 typical in the context of the user views of
21 this. So what is a typical viewing distance?

22 A I would say, as I said a moment ago, using the
23 centerline of the channel where most of the boat
24 traffic is located and perhaps coming some

1 distance on either side, you know, and could be
2 a couple of hundred feet or more.

3 Q Okay. Thank you. Nothing further.

4 PRESIDING OFFICER WEATHERSBY: Okay. We
5 are going to break for lunch, given the time.
6 Sorry, Attorney Brown, you're all ready. We all
7 have a chance to rest, and we'll start off with
8 Attorney Brown and the Durham Residents and then
9 the Durham Historic Association followed by
10 Helen Frink.

11 You probably all know by now that the
12 Crowley Joyce Trust has withdrawn as Intervenor
13 so we will not be hearing from them this
14 afternoon. Then if Counsel for the Public has
15 any questions and redirect. Hopefully, we'll
16 wrap things up this afternoon. So we'll be back
17 at 1:30. Thank you.

18 (Lunch recess taken at 12:32
19 p.m. and concludes the **Day 9**
20 **Morning Session**. The hearing
21 continues under separate cover
22 in the transcript noted as **Day**
23 **9 Afternoon Session ONLY**.)

24

C E R T I F I C A T E

I, Cynthia Foster, Registered Professional Reporter and Licensed Court Reporter, duly authorized to practice Shorthand Court Reporting in the State of New Hampshire, hereby certify that the foregoing pages are a true and accurate transcription of my stenographic notes of the hearing for use in the matter indicated on the title sheet, as to which a transcript was duly ordered;

I further certify that I am neither attorney nor counsel for, nor related to or employed by any of the parties to the action in which this transcript was produced, and further that I am not a relative or employee of any attorney or counsel employed in this case, nor am I financially interested in this action.

Dated at West Lebanon, New Hampshire, this 21st day of October, 2018.

Cynthia Foster, LCR